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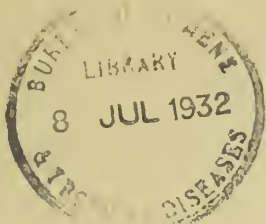
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PUBLIC HEALTH DEPARTMENT,
JOHNSTON TERRACE,
EDINBURGH, *June 1932.*

MY LORD PROVOST, LADIES AND GENTLEMEN,

I have the honour to submit the Annual Report on the Health of the City for the year 1931.

The population of the City as determined by the Census in April 1931 was 439,010, Population. with an excess of 40,310 females as compared with the number of males. At the Census of 1921 the population was 420,264; the intercensal increase therefore amounts to 18,746 or 4.5 per cent. As was to be expected, the figures show a considerable redistribution of the population, the drift of the citizens being toward the outskirts of the City. Within the boundaries as they existed prior to the extension of 1920, there has been an increase in the population of 10,627, or 3.4 per cent., whereas, in the suburban area the increase was 6,803, which is equal to 25.4 per cent. more than the population enumerated at the 1921 Census.

Certain of the municipal wards have decreased in population, notably Calton, Canongate, Merchiston, St. Giles, Dalry, and St. Leonard's while others such as Newington, Gorgie, Haymarket, St. Bernard's, Portobello, South Leith, West Leith, Liberton, and Corstorphine and Cramond Wards, have increased to a considerable extent. The redistribution of the population in the outlying districts of the City is due, of course, to the enlightened policy of the Corporation in providing new and better housing accommodation in many of these areas. While this transference of the population to suburban districts is all to the good from the point of view of hygiene, it has introduced problems of a social character which in some instances are difficult of solution.

The birth-rate for the year was 16.2 per 1,000 of the population. Birth-rate. With the exception of the two war years 1917 and 1918, when the birth-rates were 15.3 and 15.1 respectively, the rate for the year under review is the lowest that has been recorded for the City.

In view of the declining birth-rate, it is interesting to compare the figures for 1931 with those obtaining 60 years ago. In 1871 the births numbered 6,874, giving a birth-rate of 34.8 per 1,000 of the population; the infantile mortality was equal to 151 deaths per 1,000 births. During 1931 there were 7,164 births but the infantile mortality was only 69. In other words, at the end of the year 1871 approximately 5,800 infants survived, whereas in 1931, despite our small birth-rate, over 6,600 survived.

It is extremely unlikely that we shall see a return to the high birth-rates prevailing in the past, and it is, therefore, all the more necessary that the greatest care and attention should now be given to the children from birth. The charge has often been made that all our schemes for Child Welfare are biologically unsound in so far as they tend to keep alive children who otherwise would have died, and that we are rearing weaklings to carry on the race. This argument is, in my judgment, basically wrong as the causes of infantile mortality are not confined to the weakly ailing child.

The death-rate for the year was 12.9 per 1,000 of the population. Death-rate. This is the lowest rate that has been recorded for the City and was the lowest among the four largest towns in Scotland. As regards the mortality experienced in the various Wards, George Square returned the highest general death-rate, namely, 16.4 per 1,000 of the population. The mortality in Gorgie Ward was equal to 10.2 per 1,000, and this was the lowest Ward death-rate recorded for the year.

During the year the housing conditions in St. Andrew's Ward have been brought prominently before the citizens and adverse comments have been made regarding the overcrowding which is unquestionably present in certain parts of the Ward. It is

interesting, therefore, to note that the mortality statistics for the year compare very favourably with those of other districts. The general death-rate for the Ward was 12·2, and the pulmonary tuberculosis death-rate 0·5 per 1,000 of the Ward population, while the infantile mortality equalled 62 deaths per 1,000 births. The corresponding figures for the City were 12·9, 0·7, and 69.

The favourable record referred to, however, is only for a single year, and cannot be taken as indicating that the housing conditions in the Ward do not require amelioration. The figures simply prove that in spite of unhygienic environment satisfactory vital statistics may sometimes be recorded.

Tuberculosis.

Progress can again be reported with regard to Tuberculosis. The death-rate from the pulmonary form of the disease for the year under review was only ·74 per 1,000 of the population and is the lowest that has ever been recorded for the City.

I have always been optimistic regarding the fall of the tuberculosis death-rate, and I am still hopeful that further progress will be made. The disease is so closely associated with housing and nutrition that, as the Municipality persevere in efforts to improve the housing conditions and as the general standard of nutrition attains more nearly to the ideal, so will Tuberculosis lessen in virulence.

During the year an interesting experiment was made at one of our sanatoriums. A form of dieting, chiefly vegetarian, and associated with the name of Dr. Gerson, was tried. Selected patients were given a course of treatment extending over a period of six months. While this dietetic treatment may be of use in other diseases it produced no specific effect on tuberculosis. The dietary, however, emphasised what is, I think, a growing demand on the part of the general public, namely, to include in our food-stuffs a larger proportion of fresh raw vegetables, a tendency that is in keeping with the best nutritional standards.

Advanced Cases.

One weak point in our Tuberculosis Scheme is the difficulty we find in accommodating all the advanced cases desiring admission to hospital. With the limited number of beds at our disposal it is quite impossible to cope with all the cases requiring attention, and patients must sometimes be discharged to unsuitable homes in order to make room for other and more urgent cases. I have long felt that it would be in the best interests of the community if the City Council would earmark a certain number of houses which could be let at a modified rent so that patients when discharged from hospital might be transferred to homes where they could have a bedroom to themselves and be kept under more careful supervision by visiting nurses.

Non-Pulmonary Tuberculosis.

The death-rate from the non-pulmonary forms of tuberculosis also showed an encouraging decline. The rate has fallen from 0·4 to 0·2 per 1,000 of the population during the last ten years. With the steps now being taken to prevent the spread of tuberculosis by milk, I am hopeful that non-pulmonary tuberculosis of bovine origin should, at a comparatively early date, be non-existent.

Wireless Gift.

It is not common for gifts to be presented to Municipal Hospitals and I desire, therefore, to direct attention to an exceptional gift which was made during the year by an anonymous donor to the tuberculosis wards of the City Hospital. Through the generosity of a patient's employer a wireless installation was fitted up with loud speakers for four wards. In addition, 100 beds were equipped with ear-phones for the use of patients when it is not convenient to have the loud speakers in operation. The gift is greatly appreciated and there seems to me to be no reason why Municipal Institutions should be outwith the scope of private philanthropy. The patients, whether in voluntary or municipal hospitals, are equally sick folk.

Infectious Diseases.

The City has been comparatively free from infectious disease during the year, scarlet fever and diphtheria being specially low.

When dealing with the question of infectious disease it is interesting to note the changing character of the cases accommodated in our Isolation Hospitals. Since 1909, only 11 cases of smallpox have occurred in the City and no case of typhus fever has been reported since 1907.

Thirty years ago the number of enteric fever patients admitted to hospital averaged 180, while for the year 1931 only 14 cases were treated. Puerperal fever was not made notifiable until 1902, and in that year 5 cases were removed to hospital. During the year under report 108 cases were admitted for treatment.

There has also been an increase in the number of diphtheria admissions and it is particularly interesting to compare the rates. In 1890 only 30 per cent. of the notified cases were treated in hospital, in 1900 the percentage had increased to 63, and in 1931, 96 per cent. of the cases were removed to hospital.

A somewhat similar increase has taken place in regard to scarlet fever. The tendency now-a-days with this disease is to encourage home treatment in suitable cases. There is, however, a fairly widespread feeling among the medical profession that even in well-to-do households the patient is less happily circumstanced, especially during convalescence, than would be the case in the City Hospital.

Other diseases which were not readily admitted to hospital in previous years, and indeed some which were not recognised by the past generation of practitioners, are now freely admitted for treatment. I refer to such diseases as cerebro-spinal meningitis, puerperal pyrexia, pneumonia, measles, whooping cough, and undulant fever.

The varied and extensive work grouped under the Maternity and Child Welfare Section has been carried on during the year with success. The clinics still maintain their popularity as is evidenced by the fact that over 50,000 attendances were recorded. Child Welfare.

The work at the "Toddlers Playgrounds," among what is known as "pre-school" children, and which is mainly under the direction of the Voluntary Health Workers' Association, fulfils a useful function. In addition to the usual routine of these playgrounds the gathering of the children together gives an opportunity for medical supervision which, in many instances, would not otherwise be achieved.

The mothercraft classes are a particularly interesting and useful development of Child Welfare Work. The classes have again been conducted by the various members of the staff with "conspicuous success and enthusiasm."

The arrangements made whereby members of the Medical Staff, in the School Medical Department, can be transferred for part-time work in the Child Welfare Service have been in operation for some months, and I think the experiment has been thoroughly successful. At present a considerable amount of health defect in children is revealed at the first school inspection, and until more attention is paid to the pre-school child this is likely to continue. I hope, and not, I think, without good reason that, with the general spread of a knowledge of Hygiene and with the greater interest taken in the subject by the citizens, the disabilities found in pre-school children will be lessened. School Medical Service.

The school medical services give us a survey of from 86 to 90 per cent. of the Nation's children, and also present us with an opportunity for the detection of disease and a chance to fit the child for its education. I also think that this service lays the foundation of our national health and, in many ways, is of the greatest value to the community.

I have given much thought to the possibility of introducing the general practitioner into the schools, but so far have been unable to devise a scheme which would enable this to be done. In connection with the School Medical Service I should like to emphasise that if full benefit is to be derived from the work the parents must do

their share. The doctor can only give advice and it is for the parents themselves to see that it is carried out. In many instances the parents fail to attend to this duty and, as a result, valuable time and money are wasted.

Sick Poor. The work in the transferred hospitals is advancing. The new pavilions at the Northern General Hospital have turned out to be even more satisfactory than was anticipated and they have furnished us with accommodation for 100 patients at a cost of less than £40 per bed.

The accommodation at the Western General Hospital has been made full use of during the year, and the reconstruction of the Eastern General Hospital is making good headway.

Mental Health Services. The most noteworthy feature has been the opening of the Mental Clinic. This is meeting a real want in the community. It forms a nucleus for an after-care organisation for the benefit of those who have returned home after a period of hospital treatment and may be developed ultimately as a clearing-house for all cases of mental illness. The bringing of the Mental Health Services under the municipality has enabled us to have a more thorough co-operation between our mental experts in hospitals and those dealing with the mentally defective children in the School service. This co-operation has been made excellent use of and will be further developed as the years progress.

Venereal Diseases. The work in connection with the Venereal Diseases Department is being prosecuted with vigour, and during the year 5,266 new patients have been dealt with. The most gratifying results of the work of this Department are the decrease in the number of cases of inherited syphilis and the prevention of blindness from eye infections—ophthalmia, keratitis, etc.

The Advisory Committee for the Welfare of the Blind have made the suggestion that the decrease in the number of persons who become blind in the early years of life indicates, in some measure, the success of the Venereal Diseases Scheme.

The effects of untreated syphilis in pregnant women is brought out extremely well in the report by the Clinical Medical Officer. In this connection it was noted that in 1,029 such pregnancies, 560 children died. In other words, where the maternal condition had not been treated, the death-rate of the children was over 50 per cent. In a series of controls where the maternal syphilis had been treated prior to the seventh month of pregnancy, the death-rate of the children was under 5 per cent.

Another beneficial effect of the work of the Venereal Diseases Department is the acknowledged decreasing number of patients admitted to Mental Hospitals whose condition was primarily due to Venereal Diseases.

Bacteriological Services. The report in connection with the Bacteriological Services reveals the extent to which this work now enters into Public Health affairs. A perusal of the statement relative to the ordinary routine examinations shows the enormous and varied nature of the specimens submitted for report.

Among the special investigations carried out by the Department, the inquiry into the prevalence of tubercle bacilli in market milk is of outstanding importance. The results of the inquiry reveal an unsatisfactory state of affairs so far as our milk supply is concerned.

Of 157 samples of milk delivered direct from the farm 12·8 per cent. were found to contain tubercle bacilli, while 14·2 per cent. of the 155 samples of ordinary retailed milk submitted for examination contained the germs of tubercle. There were 260 samples of pasteurised milk examined, and in only 3·8 per cent. of these were tubercle bacilli present.

While pasteurisation of milk under laboratory conditions should destroy all tubercle bacilli, yet as practised commercially, probably through faults in the machinery or inadequate supervision, some of the samples still contained tubercle bacilli.

The percentages given by Professor Mackie are much higher than those of other cities. This, however, does not necessarily mean that the milk supplied in Edinburgh is worse than in other towns, but rather that the method of examination is more exacting and more complete than obtains elsewhere.

Such figures as these indicate that ordinary raw retailed milk constitutes a serious danger to the health of the citizens, especially to infants and young children, and unless other and more cogent reasons can be advanced, they appear to lay a claim for the pasteurisation of all milk except that derived from tubercle-free herds.

With regard to the presence of the *Bacillus Abortus* in milk it is disconcerting to find that 36 per cent. of the samples of retailed milk gave positive results. The astonishing feature about it is that although the *Bacillus Abortus* gives rise to "undulant" fever, only three cases, as far as is known, occurred in the City during the year. In regard to the occurrence of the disease, I can only quote Professor Mackie's words: "No satisfactory explanation has yet been given of the accessory factors necessary for the production of the disease in man, and before a proper understanding of undulant fever is arrived at these factors must be discovered." I should also add that the organism is killed by efficient pasteurisation.

The work in connection with the study of the bacteriology of acute rheumatism is full of interest, and I hope that at a future date a way may be found for a closer association between the Clinician and the Bacteriologist.

Viewing the work of the Department as a whole the past year has been one of great activity. There is throughout the various branches of the Public Health Service a high ethical tone, and I think that the members of the staff discharge their respective duties in a manner likely to give satisfaction and bring credit to the Council whom they serve. Acknowledgments.

I have to thank the Heads of Departments and all members of the staff for their loyalty, advice, and counsel in the many difficult situations which have arisen during the year.

I am, My LORD PROVOST, LADIES and GENTLEMEN,

Your obedient Servant,

JOHN GUY, M.D., D.P.H. (Camb.), F.R.F.P. & S. (Glas.), F.R.C.P. (Edin.),
Medical Officer of Health.

SUMMARY OF STATISTICS

For the Years 1927, 1928, 1929, 1930 and 1931.

	1927	1928	1929	1930	1931
Population Estimated to middle of year	431,413	433,299	435,195	437,098	443,042
Area of City—Acres	32,526	32,526	32,526	32,526	32,526
Density of Population—Persons per acre	13·2	13·3	13·4	13·4	13·6
Houses Inhabited	104,488	106,325	107,704	108,375	109,421
Marriages Registered	3,861	3,760	3,955	3,693	3,788
Birth-rate (Corrected for Country Births)	17·7	17·1	16·8	16·7	16·2
Death-rate (Corrected for Country Deaths)	14·1	13·6	14·8	13·8	12·9
Infantile Mortality	80	75	80	82	69
Cancer Death-rate	1·7	1·6	1·7	1·6	1·5
Phthisis Death-rate	·9	·8	·8	·8	·7
* Epidemic Diseases Death-rate	·5	·6	·3	·7	·2

* Includes Enteric Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, and Diarrhœa and Enteritis under 2 years.

Note.—The population for 1931 has been adjusted by excluding persons temporarily residing in the City on Census night and including Edinburgh citizens enumerated elsewhere in Scotland.

VITAL STATISTICS

AND

REPORTS RELATING TO VARIOUS SUB-DEPARTMENTS AND INSTITUTIONS.

POPULATION.

The population of the City as determined at the date of the Census, 26th April 1931, was 439,010, of which number 199,350 or 45·4 per cent. were males and 239,660 or 54·6 per cent. were females. As compared with the Census of 1921 there is an increase of 18,746 or 4·5 per cent.

The following Table shows the population resident in the different areas of the City on Census day 1931 together with the corresponding figures for 1921 :—

Area.	Population 1921.			Population 1931.		
	Males.	Females.	Total.	Males.	Females.	Total.
Edinburgh	139,232	172,606	311,838	143,874	178,591	322,465
Leith	39,747	41,871	81,618	39,918	43,016	82,934
Suburban	13,034	13,774	26,808	15,558	18,053	33,611
Totals	192,013	228,251	420,264	199,350	239,660	439,010

The population in the respective areas has undergone considerable change since the City boundaries were extended in 1920. The opening up of new housing areas and the tendency of the citizens to move to more healthy surroundings on the outskirts of the City has had a marked effect on the population of the suburban district when compared with the last census.

During the past ten years the population within the old City boundary has increased by 10,627 or 3·4 per cent., that within the former Burgh of Leith by 1,316 or 1·6 per cent., while the population in the Suburban Area has increased by 6,803 or 25·4 per cent. In the ten years preceding 1921 the population within the old City boundary declined by 8,480, while the populations of Leith and the suburban area showed increases of 1,130 and 3,568 respectively.

The distribution of the population in the various Wards is shown in the following Table and comparative figures for 1921 are given :—

Ward.	Census Population 1921.	Census Population, 1931.			Increase.	Decrease.
		Males.	Females.	Total.		
Calton	23,017	10,161	11,482	21,643	...	1,374
Canongate	23,056	10,335	11,415	21,750	...	1,306
Newington	18,128	8,581	12,792	21,373	3,245	...
Morningside	22,094	7,968	13,580	21,548	...	546
Merchiston	22,796	8,679	12,471	21,150	...	1,646
Gorgie	20,900	12,185	13,419	25,604	4,704	...
Haymarket	13,655	6,398	10,840	17,238	3,583	...
St. Bernard's	15,001	8,171	10,434	18,605	3,604	...
Broughton	15,587	6,996	8,138	15,134	...	453
St. Stephen's	17,303	7,340	9,742	17,082	...	221
St. Andrew's	11,056	4,803	6,165	10,968	...	88
St. Giles	22,203	10,198	10,406	20,604	...	1,599
Dalry	22,102	9,950	10,774	20,724	...	1,378
George Square	23,371	10,416	12,314	22,730	...	641
St. Leonard's	22,889	9,536	10,631	20,167	...	2,722
Portobello	18,680	12,157	13,988	26,145	7,465	...
South Leith	28,206	14,377	15,432	29,809	1,603	...
North Leith	21,147	10,394	9,991	20,385	...	762
West Leith	17,828	8,421	10,412	18,833	1,005	...
Central Leith	14,437	6,726	7,181	13,907	...	530
Liberton	9,266	5,257	5,644	10,901	1,635	...
Colinton	9,058	4,554	5,144	9,698	640	...
Corstorphine and Cramond .	8,484	5,747	7,265	13,012	4,528	...
Totals	420,264	199,350	239,660	439,010	18,746	...
Edinburgh Area	311,838	143,874	178,591	322,465	10,627	...
Leith Area	81,618	39,918	43,016	82,934	1,316	...
Suburban Area	26,808	15,558	18,053	33,611	6,803	...

Note.—The Ward Populations in this Table include persons resident in Institutions and Military Quarters. The various rates throughout this Report relating to Wards are calculated on adjusted populations. See Table on page 9.

Of the twenty-three Wards into which the City is divided for municipal purposes, ten show increases of population, of which the largest are Portobello Ward 7,465, Gorgie Ward 4,704, and Corstorphine and Cramond 4,528. It will be noted by a reference to the Table that the Wards showing the increases are those situated in the outlying districts of the City. In a few of these, municipal housing schemes have been promoted since 1921, and in others many houses of the bungalow and flatted villa types have been erected by private enterprise.

In thirteen Wards decreases fall to be recorded. An interesting feature to be gleaned from the Table is the reduction of the population in the central districts of the City where improvement schemes have been undertaken by the Local Authority. In St. Leonard's Ward, where two improvement schemes have been promoted, the population has declined by 11·9 per cent., while in St. Giles and Canongate Wards, where slum clearances have also been carried out, the reduction has been equal to 7·2 and 5·7 per cent. respectively.

In regard to the housing conditions an exhaustive analysis is presented in the census returns. There are, for example, 20,144 persons or 4·8 per cent. of the population living in houses of one apartment, 134,787 or 32·3 per cent. in houses of two apartments, and 108,546 or 26·0 per cent. in houses of three apartments.

As showing the pressure on housing accommodation it is pointed out in the Census Report that, of the 105,702 private households enumerated, 3,646 or 3·4 per cent. have sub-let portions and the number of persons resident in these portions was 9,293 or

2·3 per cent. of the population. The percentage of houses partly sub-let to the total number of houses is 3·1 in the case of two-roomed houses, 3·5 in three-roomed houses, and 4·1 in four-roomed houses.

Considerable difficulty has always been experienced in obtaining accurate data regarding the extent of overcrowding in the different districts of the City. An interesting and valuable Table has, however, been included in the present Census Report from which it is possible to submit reliable information relative to the housing conditions in the respective Wards. The following statement, which has been extracted from the Census Report, indicates very clearly the Wards where overcrowding is prevalent.

“ It is noted that the percentage of one-roomed houses is greatest in St. Andrew's Ward, where it is 26·6, accommodating 1,941 persons, or 19·3 per cent., of the Ward population. In St. Giles' Ward the percentage of one-roomed houses is 25·1, containing 3,336 persons, or 18·0 per cent., of the population. In St. Leonard's it is 18·5, containing 2,530, or 12·6 per cent., of the population ; in North Leith 12·8, containing 1,869, or 9·7 per cent. of the population ; and in George Square it is 12·1, containing 1,605, or 8·3 per cent. of the population.

“ Two-roomed houses form 58·8 per cent. of the dwellings in Dalry Ward, with a population of 11,849 ; 56·5 per cent. of those of Central Leith with a population of 7,866 ; 48·4 per cent. of those of North Leith with a population of 9,356 ; 47·9 per cent. of those of Gorgie with a population of 12,213 ; 46·3 per cent. of those of Canongate with a population of 9,815 ; 44·9 per cent. of those of Calton with a population of 9,612 ; and 42·6 per cent. of those of St. Leonard's with a population of 8,772.”

The foregoing statement emphasises the necessity for a continued progressive housing policy by the Local Authority. Notwithstanding the efforts that have already been made to open up overcrowded areas, the problem still appears to be acute.

Usual Residence.—Interesting particulars are tabulated for the first time in the Census Report regarding persons temporarily resident in districts other than those in which their permanent domiciles are situated. The number of persons enumerated in the City whose “ usual residence ” was stated to be elsewhere in Scotland was 4,393, and the number whose “ usual residence ” was in Edinburgh but who were temporarily residing in other districts in Scotland on Census night was 8,425. The excess of residents to the enumerated population was therefore 4,032. As a result of these adjustments the population of the City is increased from 439,010 to 443,042, and it is on this latter figure that the various rates throughout this Report for the year 1931 are calculated.

Density.—The area of the City extends to 32,526 acres, and the density of population was 13·6 persons per acre.

The area and density of population in the various municipal Wards will be found in the Table on page 9. The number of persons per acre is based on the total area of each Ward, no allowance being made for ground used for agricultural, industrial, and other purposes.

HOUSING.

Inhabited Houses.—Through the courtesy of the Burgh Assessor I am able to submit particulars regarding the number and rentals of the occupied houses in the City. The total number at Whitsunday 1931 was 109,421 as compared with 108,375 in 1930—an increase of 1,046.

NUMBER OF DWELLING-HOUSES OCCUPIED AT WHITSUNDAY 1931.										
Ward.		Under £5.	£5 and under £10.	£10 and under £15.	£15 and under £20.	£20 and under £30.	£30 and under £40.	£40 and under £50.	£50 and upwards.	Total in each Ward.
1.	Calton . .	13	301	1,322	1,438	1,601	485	142	154	5,456
2.	Canongate . .	54	1,012	1,548	1,098	1,241	308	93	35	5,389
3.	Newington . .	2	151	416	737	1,374	661	427	1,772	5,540
4.	Morningside . .	1	26	168	295	1,022	1,641	1,473	1,851	6,477
5.	Merchiston . .	...	25	253	515	2,055	1,455	462	951	5,716
6.	Gorgie . .	12	73	1,610	1,561	2,421	380	127	64	6,248
7.	Haymarket. . .	2	150	396	369	1,173	615	236	1,505	4,446
8.	St. Bernard's . .	13	335	499	411	1,201	1,300	184	897	4,840
9.	Broughton . .	5	156	551	868	1,150	685	309	274	3,998
10.	St. Stephen's . .	16	505	788	811	1,046	549	322	584	4,621
11.	St. Andrew's . .	20	822	625	332	266	105	73	664	2,907
12.	St. Giles . .	28	1,295	1,606	618	820	151	73	93	4,684
13.	Dalry . .	1	215	1,978	1,890	1,079	53	10	1	5,227
14.	George Square . .	19	701	1,116	839	1,299	523	253	256	5,006
15.	St. Leonard's . .	35	1,259	1,884	880	649	237	119	43	5,106
16.	Portobello . .	6	231	523	923	2,143	1,205	642	615	6,288
17.	South Leith . .	1	245	1,425	2,085	2,601	360	185	115	7,017
18.	North Leith . .	8	844	1,769	998	550	109	41	31	4,350
19.	West Leith . .	9	572	1,116	584	735	678	383	768	4,845
20.	Central Leith . .	1	281	1,595	668	518	98	34	14	3,209
21.	Liberton . .	52	338	799	270	313	251	171	310	2,504
22.	Colinton . .	18	221	395	175	166	285	201	458	1,919
23.	{ Corstorphine and Cramond }	31	254	264	264	514	1,023	557	721	3,628
Total .		347	10,012	22,646	18,629	25,937	13,157	6,517	12,176	109,421
Edinburgh Area . .		227	7,257	15,283	13,585	20,540	10,353	4,945	9,759	81,949
Leith Area . .		19	1,942	5,905	4,335	4,404	1,245	643	928	19,421
Suburban Area . .		101	813	1,458	709	993	1,559	929	1,489	8,051

Housing Schemes.—The information in the following Table, which has been kindly supplied by the City Chamberlain, shows the number of houses provided by the Corporation up to 31st December 1931. Of the total houses 341 are of one apartment, 1,556 of two apartments, 5,135 of three apartments, 269 of four apartments, and 137 of five apartments.

	Number of Apartments.										Totals.	
	One.		Two.		Three.		Four.		Five.			
	Number.	Rate per Cent.	Number.	Rate per Cent.	Number.	Rate per Cent.	Number.	Rate per Cent.	Number.	Rate per Cent.	Number.	Rate per Cent.
Improvement and Recon- struction Schemes—												
Non-State-Aided . . .	268	44·1	338	55·6	2	·3	...	...	...	...	608	8·2
State-Aided . . .	...	...	456	27·2	1,224	72·8	1	...	...	...	1,681	22·6
Provision of New Houses—												
Non-State-Aided . . .	73	44·2	79	47·9	12	7·3	1	·6	...	...	165	2·2
State-Aided : 1919 Act	...	...	179	11·6	987	63·7	246	15·9	137	8·8	1,549	20·8
1923 „	...	...	18	100·0	...	...	...	...	...	...	18	·3
1924 „	...	...	486	14·2	2,910	85·2	21	·6	...	...	3,417	45·9
Totals . . .	341	4·6	1,556	20·9	5,135	69·0	269	3·6	137	1·9	7,438	100·0

Since the 1st January 1919 to the 28th December 1931 the Dean of Guild Court have passed plans for 15,724 houses.

VITAL STATISTICS.

The accompanying Table gives a general survey of the increase which has taken place in the population of the City since 1861, and also shows the number of births and deaths with the rates per 1,000 of the population. The Infantile Mortality is also given.

It should be noted that the figures throughout the Table have been corrected, where necessary, to remove errors in estimating the population for intercensal years.

Years.	Population.	Deaths.	Rate per 1000.	Births Registered.	Rate per 1000.	Infantile Mortality.
†1861	170,444	3946	23.1	5694	33.4	135
†1871	196,979	5484	27.8	6874	34.8	151
†1881	228,346	4308	18.8	7360	32.2	128
1882	232,602	4292	18.4	7351	31.6	121
*1883	239,910	4275	17.8	6844	28.5	128
1884	242,802	4556	18.7	7481	30.8	135
*1885	245,447	4241	17.2	7372	29.9	120
1886	248,121	4555	18.3	7451	30.0	136
1887	250,824	4824	19.2	7641	30.4	137
1888	253,264	4374	17.2	7500	29.6	128
1889	256,318	4415	17.2	7414	28.9	133
*1890	259,110	4999	19.2	7177	27.6	144
†1891	261,225	5257	20.1	7382	28.2	138
1892	265,573	4746	17.8	7169	26.9	135
1893	269,105	4830	17.9	7434	27.6	148
1894	272,683	4350	15.9	7207	26.4	125
1895	276,309	5246	18.9	7402	26.6	152
1896	279,983	4275	15.2	7610	27.1	122
*1897	297,198	5782	19.4	7990	26.8	164
1898	301,305	5320	17.6	8097	26.8	141
1899	305,468	5396	17.6	8218	26.9	147
*1900	309,688	5396	17.4	8129	26.2	132
†1901	316,921	5633	17.7	7920	24.9	143
*1902	317,880	5113	16.0	7909	24.8	119
1903	318,219	4963	15.5	8112	25.4	117
1904	318,560	4995	15.6	7777	24.4	125
1905	318,777	4799	15.0	7741	24.2	124
1906	319,120	4868	15.2	7649	23.9	112
1907	319,464	4978	15.5	7504	23.4	121
1908	319,809	4690	14.6	7506	23.4	114
1909	320,282	5106	15.9	7410	23.1	113
1910	320,504	4651	14.5	7063	22.0	103
†1911	320,829	4652	14.4	6507	20.8	115
1912	321,119	4701	14.6	6346	19.7	110
1913	321,645	4630	14.3	6243	19.4	101
1914	325,780	5025	15.4	6466	19.8	110
1915	323,388	5419	16.7	5851	18.1	132
1916	321,993	4812	14.9	5748	17.8	100
1917	320,116	4924	15.3	4913	15.3	123
1918	318,250	5090	16.0	4830	15.1	94
1919	316,390	5583	17.6	5612	17.7	117
1920	314,193	4442	14.2	7774	24.7	89
*†1921	420,264	6048	14.4	9028	21.5	96
1922	422,112	6447	15.3	8772	20.8	91
1923	423,956	5875	13.9	8662	20.4	82
1924	425,802	6312	14.8	8404	19.7	89
1925	427,664	6138	14.4	7843	18.3	96
1926	429,535	5710	13.3	7926	18.5	80
1927	431,413	6066	14.1	7621	17.7	80
1928	433,299	5872	13.6	7420	17.1	75
1929	435,195	6442	14.8	7304	16.8	80
1930	437,098	6038	13.8	7307	16.7	82
†1931	443,042	5726	12.9	7164	16.2	69

* City boundaries extended.

† Census year.

Note.—The population for 1931 has been adjusted by excluding persons temporarily residing in the City on Census night and including Edinburgh citizens enumerated elsewhere in Scotland.

MARRIAGES.

The marriages registered in Edinburgh during 1931 numbered 3,788, as compared with 3,693 in 1930 and 3,955 in 1929.

Of the total marriages registered in 1931, 1,025 were what is known as "irregular." A large percentage of these are contracted by persons resident in various parts of Scotland who simply come to the City to take advantage of the facilities which exist for marriage by declaration before the Sheriff.

The number of marriages in each quarter of the year was as follows :—

1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
749	934	1,215	890	3,788

BIRTHS.

During the year 7,820 births were registered in the City. From this total, however, there have to be deducted 760 which occurred in maternity hospitals and nursing homes to parents resident outwith Edinburgh. In the course of the year there were 104 births to Edinburgh citizens residing temporarily in other parts of Scotland, and these have to be included in the City records.

After making these adjustments the net number of births to be allocated to the City was 7,164. The birth-rate calculated on this figure was equivalent to 16·2 per 1,000 of the population and represents the lowest rate recorded since the extension of the City boundaries in 1920.

The number of births and the birth-rates in the respective municipal Wards will be found in the Table on page 9, while the following statement gives details regarding the corrected births registered in each quarter of the year :—

Quarter.	Total Births.	Legitimate.	Illegitimate.	Percentage of Illegitimate to Total Births.
1st .	1,752	1,603	149	8·5
2nd .	1,955	1,822	133	6·8
3rd .	1,746	1,637	109	6·3
4th .	1,711	1,603	108	6·4
Totals	7,164	6,665	499	7·0

DEATHS AND DEATH-RATES.

The total number of deaths registered in the City during 1931 was 6,416. Of these deaths, 916 referred to non-residents and were therefore excluded from the returns. On the other hand, 226 deaths of Edinburgh citizens occurring in Bangour Mental Hospital and various districts throughout Scotland were included.

After making these corrections it was found that the net number of deaths for the year was 5,726, which is equivalent to a death-rate of 12·9 per 1,000 of the population.

The rate is calculated on the population as revealed by the recent census, and is the lowest that has been recorded for the City.

The following Table shows the number of deaths in each quarter of the year together with the quarterly death-rates :—

Quarter.	Number of Deaths.	Death-rates per 1,000.
1st . .	1,830	16·5
2nd . .	1,389	12·5
3rd . .	1,189	10·7
4th . .	1,318	11·9
Total .	5,726	12·9

The number of deaths during the last five years, and the death-rates calculated on the revised estimates of population for intercensal years, were as follows :—

Year . . .	1927.	1928.	1929.	1930.	1931.
Deaths . . .	6,066	5,872	6,442	6,038	5,726
Death-rates . .	14·1	13·6	14·8	13·8	12·9

The following statement shows how the deaths were distributed in the different areas of the City :—

Area.	Number of Deaths.	Death-rates per 1000.
Edinburgh	4,143	13·0
Leith	970	11·8
Suburban	365	12·2
Institutions	240	...
Military Quarters	8	...
Whole City	<u>5,726</u>	<u>12·9</u>

Below are given the corrected death-rates for the eight large centres of population in Scotland. The particulars have been extracted from the Registrar-General's preliminary statement for 1931 :—

	Rate per 1000 of Population.		Rate per 1000 of Population.
Glasgow	14·1	Paisley	12·6
Edinburgh	12·9	Greenock	13·5
Dundee	13·9	Motherwell and Wishaw	11·5
Aberdeen	14·0	Clydebank	10·3

Ward Mortality.—In the Table on page 9 particulars are given regarding the population in the various municipal Wards, together with the more important mortality rates applicable to each.

In the Edinburgh area the highest general death-rate was returned for George Square Ward, viz., 16·4 per 1,000 of the population. There were 25 deaths from pulmonary tuberculosis and this was equivalent to 1·2 per 1,000. The infantile mortality was 81 deaths per 1,000 births, as compared with 91 in 1930.

In St. Giles Ward the general death-rate was 15·1 and the pulmonary tuberculosis rate 1·9. The infantile mortality was 58, or 48 per 1,000 births less than the rate recorded for 1930.

The general death-rate in Newington Ward was 15·0 per 1,000 of the Ward population. There were only 8 deaths from pulmonary tuberculosis, and the death-rate from this cause was equal to ·4 per 1,000 persons living in the Ward. The infantile mortality was at the rate of 97 deaths per 1,000 births.

The mortality rates returned for St. Andrew's Ward are more favourable than in recent years. The general death-rate was 12·2 and the pulmonary tuberculosis rate ·5 per 1,000 of the Ward population. The infantile mortality was 62, as compared with 108 in 1930 and 121 in 1929.

For a number of years St. Andrew's Ward has occupied an unenviable position so far as mortality rates are concerned. The inferior housing and the accompanying unsatisfactory social conditions have annually been reflected in high death-rates and excessive infantile mortality. In view of these facts, one would hardly be justified in accepting the favourable rates recorded for a single year as being a true reflex of the health conditions obtaining in the Ward.

It has been pointed out in previous Annual Reports that there are one or two badly congested working-class localities in the Leith Street district, and also on the western boundary of the Ward, which are much in need of improvement, and that observation still applies.

The general death-rate for St. Leonard's Ward was 13·6 per 1,000 of the population. This is a great improvement on the mortality experience of this Ward and it is one of the results of the extensive Slum Clearance Schemes undertaken in the district.

The total deaths allocated to the Ward during 1931 numbered 276, compared with 319 in 1930 and 362 in 1929.

There were 412 births in the Ward during the year and 43 deaths of infants under the age of one year. The infantile mortality calculated on these figures was equal to 104 deaths per 1,000 births. The corresponding rate for 1930 was 102.

In the Leith area of the City the North Ward returned a general death-rate of 13.9 and a pulmonary tuberculosis rate of 1.3 per 1,000 of the population. The infantile mortality was at the rate of 55 deaths per 1,000 births and is the lowest recorded during the amalgamation period.

The death-rate in the Central Ward was 12.5 per 1,000 and the pulmonary tuberculosis rate was equal to .9. The infantile mortality was 76, as compared with 58 for the preceding year.

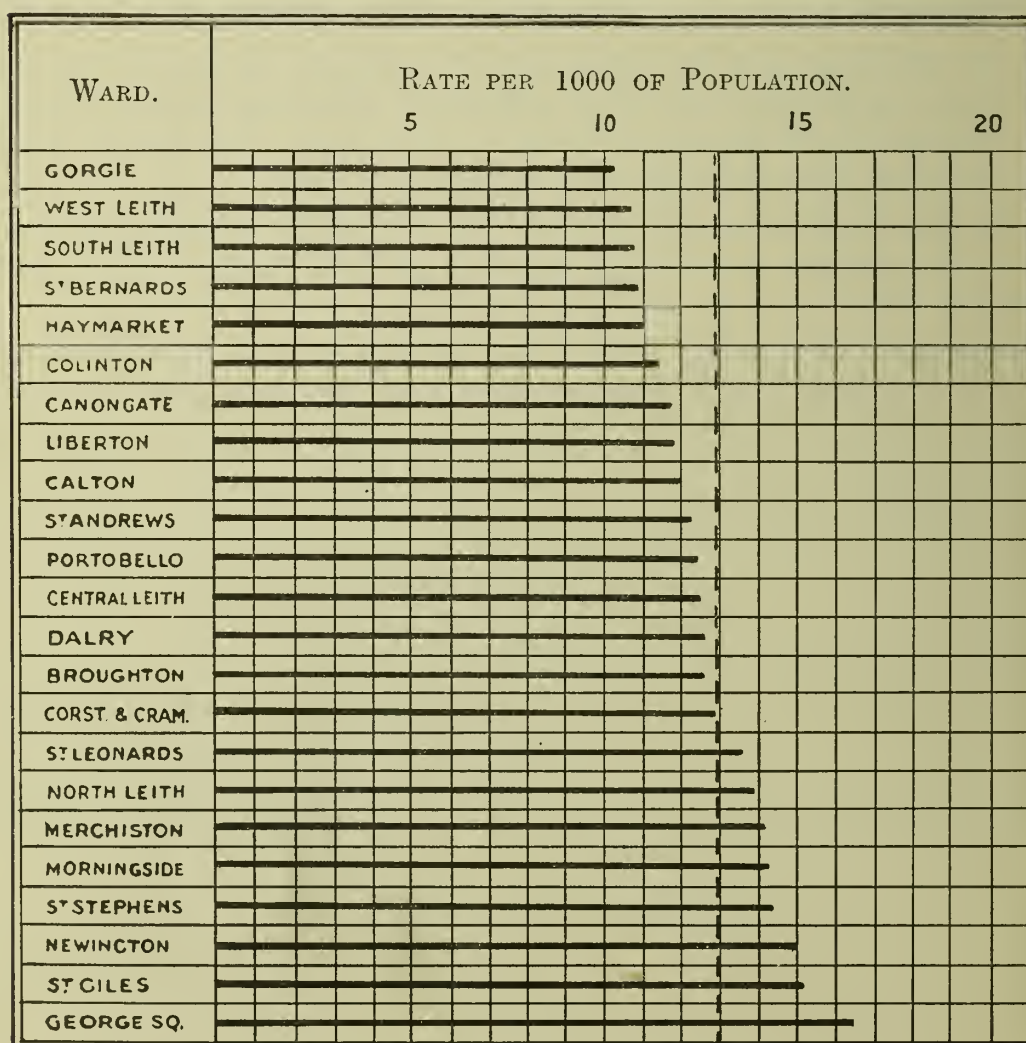
In the South and West Wards the general death-rates were 10.8 and 10.7 per 1,000 respectively. The infantile mortality in the South Ward was 60 and in the West Ward 74.

The general death-rates in the three suburban Wards were as follows :—Liberton 11.8, Colinton 11.3, and Corstorphine and Cramond 12.9.

The following diagram gives a comparative view of the death-rates recorded for each of the twenty-three municipal Wards.

DEATH-RATE—ALL CAUSES.

PER 1000 OF POPULATION.



----- Death Rate for City

Table showing the Population, etc., also the Births and Deaths in each Ward during the year.

WARD.	Population.	Area in Acres.	Density of Population per Acre.	BIRTHS.		INFANTILE MORTALITY.		DEATHS.					
				Number.	Rate per 1000.	Deaths.	Rate per 1000 Births.	PULMONARY PHthisIS.		* EPIDEMIC DISEASES.		OTHER CAUSES.	
								Number.	Rate per 1000.	Number.	Rate per 1000.	Number.	Rate per 1000.
Calton . . .	21,722	228	95.3	375	17.3	21	56	11	.5	8	.4	241	11.1
Canongate . . .	21,323	965	22.1	413	19.4	31	75	15	.7	7	.3	229	10.7
Newington . . .	21,064	891	23.6	278	13.2	27	97	8	.4	6	.3	301	14.3
Morningside . . .	21,405	1,358	15.8	148	6.9	6	41	8	.4	2	.1	294	13.7
Merchiston . . .	20,017	677	29.6	163	8.1	12	74	7	.3	...	...	277	13.8
Gorgie . . .	25,749	676	38.1	456	17.7	34	75	23	.9	5	.2	235	9.1
Haymarket . . .	17,401	959	18.1	191	11.0	8	42	10	.6	...	...	181	10.4
St. Bernard's . . .	17,596	1,250	14.1	231	13.1	15	65	6	.3	5	.3	182	10.3
Broughton . . .	15,216	472	32.2	233	15.3	15	64	9	.6	3	.2	180	11.8
St. Stephen's . . .	17,243	190	90.8	271	15.7	16	59	10	.6	3	.2	233	13.5
St. Andrew's . . .	11,071	206	53.7	194	17.5	12	62	6	.5	3	.3	126	11.4
St. Giles . . .	20,344	266	76.5	431	21.2	25	58	38	1.9	7	.3	262	12.9
Dalry . . .	20,920	187	111.9	383	18.3	29	76	23	1.1	3	.1	238	11.4
George Square . . .	20,780	248	83.8	310	14.9	25	81	25	1.2	4	.2	311	15.0
St. Leonard's . . .	20,269	104	194.9	412	20.4	43	104	12	.6	4	.2	260	12.8
Portobello . . .	25,997	2,200	11.8	448	17.2	25	56	23	.9	4	.2	295	11.3
South Leith . . .	29,173	819	35.6	469	16.1	28	60	23	.8	1	.1	290	9.9
North Leith . . .	19,974	218	91.6	491	24.6	27	55	26	1.3	5	.3	247	12.3
West Leith . . .	18,943	462	41.0	285	15.0	21	74	8	.4	3	.2	192	10.1
Central Leith . . .	14,038	142	98.9	289	20.6	22	76	12	.9	3	.2	160	11.4
Liberton . . .	10,719	6,339	1.7	214	20.0	13	61	6	.5	2	.2	119	11.1
Colinton . . .	6,950	5,602	1.2	91	13.1	4	44	7	1.0	1	.1	71	10.2
Corstorphine and Cramond . . .	12,302	8,067	1.5	186	15.1	12	65	4	.3	2	.2	153	12.4
Institutions . . .	10,941	...	...	160	...	21	...	5	...	1	...	234	...
Military Quarters . . .	1,885	...	...	42	...	...	...	1	...	...	...	7	...
Totals . . .	443,042	32,526	13.6	7,164	16.2	492	69	326	.7	82	.2	5,318	12.0
													12.9

* Includes Enteric Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, and Diarrhoea and Enteritis under 2 years.

NOTE.—The Ward populations have been adjusted by deducting the population resident in the principal institutions and military quarters. Births and deaths occurring in institutions are allocated to Wards, except in cases where a permanent domicile cannot be established.

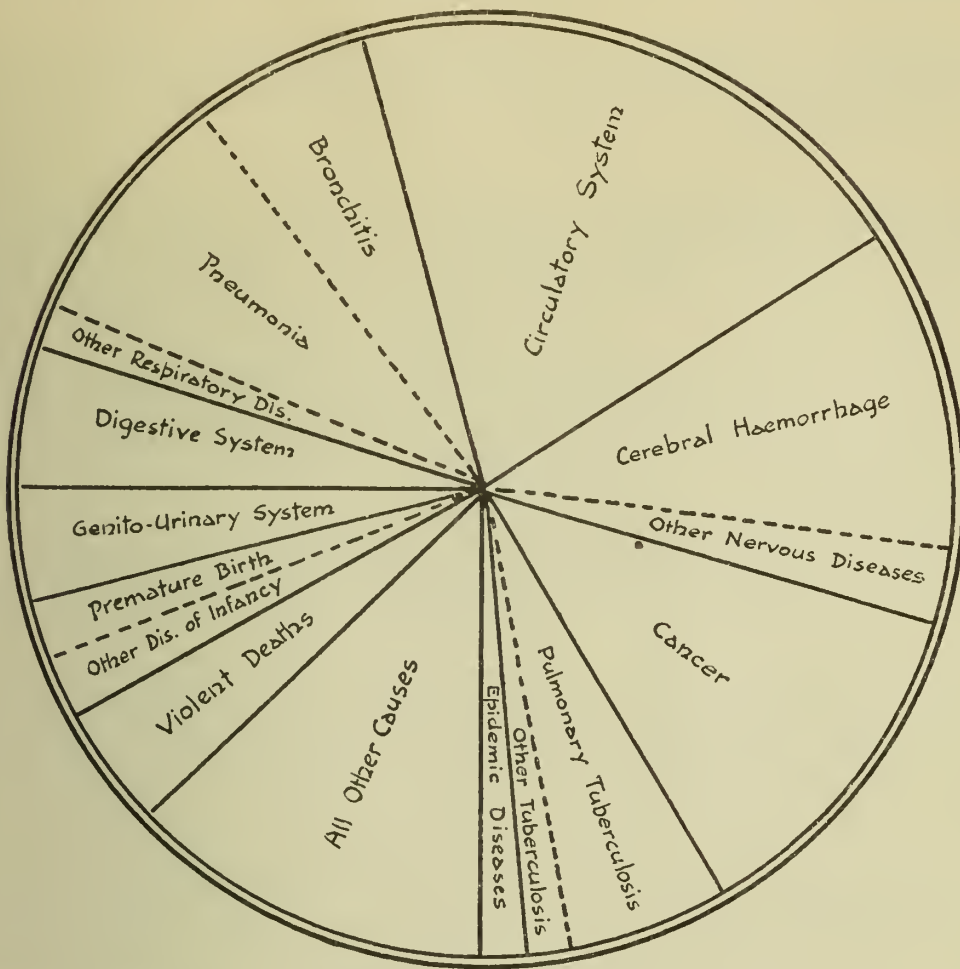
TABLE showing the number of Deaths (including Deaths transferred from other districts) and the Death-rates per 1000 of the Population during 1931 from all causes and from certain specified causes; also the Population, the number of Deaths and the Death-rates per 1000, at all ages and certain age-periods.

	Annual Death-rate per 1000	All Ages	Under 1 Year	1 and under 5 Years	Total under 5 Years	5 and under 10 Years	10 and under 15 Years	15 and under 25 Years	25 and under 35 Years	35 and under 45 Years	45 and under 55 Years	55 and under 65 Years	65 and under 75 Years	75 Years and upwards	Total above 5 Years
Age Distribution of Population . . . . .	...	443,042	6,625	26,287	32,912	35,578	31,991	81,347	70,603	58,299	54,706	43,605	24,711	9,290	410,130
Deaths from all Causes . . . . .	...	5,726	492	202	694	71	43	192	234	340	605	976	1,266	1,305	5,032
Annual Death-rate per 1,000	12.9	12.9	74.3	7.7	21.1	2.0	1.3	2.4	3.3	5.8	11.1	22.4	51.2	140.5	12.3
Enteric Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles . . . . .	.01	4	2	1	3	1	...	...	...	...	...	...	...	...	1
Scarlet Fever . . . . .	.01	4	...	1	1	3	...	...	...	...	...	...	...	...	3
Whooping Cough . . . . .	.04	19	10	9	19	...	...	...	...	...	...	...	...	...	...
Diphtheria and Croup . . . . .	.06	26	...	9	9	15	1	...	...	...	...	...	1	...	17
Influenza (Sole Cause) . . . . .	.03	15	...	...	...	...	...	...	...	...	...	...	...	...	15
Erysipelas . . . . .	.06	6	...	1	1	...	...	...	...	...	...	...	...	...	5
Encephalitis . . . . .	.02	11	...	...	...	...	...	...	...	...	...	...	...	...	5
Cerebro-Spinal Meningitis . . . . .	.05	23	8	10	18	...	...	...	...	...	...	...	...	...	11
Tuberculosis of Respiratory System . . . . .	.74	326	3	5	8	4	4	65	61	63	58	41	18	4	318
Tuberculous Meningitis . . . . .	.09	38	3	19	22	6	3	4	1	...	2	...	...	...	16
Tuberculosis of Intestines and Peritoncum . . . . .	.04	17	...	4	4	...	3	1	3	1	...	...	1	1	13
Other Tuberculous Disease . . . . .	.07	30	3	2	5	1	...	6	3	43	114	198	204	115	25
Malignant Disease	1.54	686	...	...	...	...	...	3	9	...	6	...	3	...	686
Rheumatic Fever . . . . .	.05	21	...	...	...	1	4	2	8	2	...	2	1	...	20
Meningitis . . . . .	.04	18	5	5	10	2	...	...	1	1	...	2	1	1	8
Cerebral Haemorrhage, Embolism, Thrombosis	1.43	635	...	1	1	...	1	1	4	10	38	133	248	199	634
Other Nervous Diseases . . . . .	.27	120	9	4	13	1	1	5	3	15	29	18	23	12	107
Heart Disease	2.33	1,033	2	...	2	5	4	18	24	44	107	200	306	323	1,031
Other Diseases of Circulatory System . . . . .	.30	133	...	2	2	...	1	...	2	3	5	14	33	73	131
Bronchitis . . . . .	.79	352	27	2	29	...	...	...	3	15	25	56	94	130	323
Pneumonia (all forms)	1.10	486	109	78	187	10	1	16	23	35	43	52	70	49	299
Other Diseases of Respiratory System . . . . .	.18	79	4	5	9	...	3	3	3	5	4	15	8	29	70
Gastric and Duodenal Ulcer . . . . .	.11	50	...	...	...	...	...	...	6	8	12	11	11	2	50
Diarrhoea and Enteritis (under 2 years) . . . . .	.07	29	27	2	29	...	...	...	...	...	...	...	...	...	...
Appendicitis . . . . .	.11	50	...	1	1	5	4	7	6	2	4	11	8	2	...
Diseases of Liver and Gall Bladder . . . . .	.12	51	...	...	...	...	...	...	...	2	7	10	21	11	49
Other Diseases of Digestive System . . . . .	.24	106	11	6	17	2	4	6	5	6	11	16	20	19	51
Nephritis—Acute and Chronic . . . . .	.37	166	...	2	2	2	...	...	8	12	29	52	35	26	89
Other Genito-Urinary Diseases . . . . .	.16	73	...	1	1	...	...	...	2	4	9	12	18	25	164
Puerperal Sepsis . . . . .	.04	16	...	...	...	...	...	1	9	6	...	...	...	...	72
Other Diseases associated with Childbirth . . . . .	.08	35	...	...	...	...	...	6	18	11	...	...	...	...	16
Diseases of Early Infancy and Malformations . . . . .	.55	242	237	...	239	...	1	1	1	...	...	...	...	...	35
Violent Deaths . . . . .	.53	235	12	17	29	7	4	20	19	25	40	32	29	30	206
All Other Causes	1.33	391	20	12	32	6	4	21	10	21	57	88	108	244	559

CAUSES OF DEATH.

The Table on the preceding page shows the principal causes of death tabulated according to disease groups and age periods.

The following diagram illustrates the proportion of some of the disease groups to the total deaths.



Epidemic Diseases.—The diseases allocated to this group include enteric fever, measles, scarlet fever, whooping cough, diphtheria, and diarrhoea and enteritis in children under the age of two years.

The deaths from these diseases during 1931 numbered 82, as compared with 299 in the previous year, and an annual average of 221 for the five years 1926-1930. This favourable experience was due to the comparatively low incidence of measles and whooping cough during the year. Only 23 deaths were recorded from these causes, as compared with 178 in 1930.

The deaths attributed to diphtheria numbered 26, and this is the lowest mortality that has been recorded for the City since 1908.

The following statement shows the number of deaths from epidemic diseases during the last five years :—

	1927.	1928.	1929.	1930.	1931.
Enteric Fever	3	3	2	2	...
Measles	71	77	...	106	4
Scarlet Fever	17	8	3	7	4
Whooping Cough	43	80	39	72	19
Diphtheria	43	30	56	71	26
Diarrhoea and Enteritis	42	44	50	41	29
	<u>219</u>	<u>242</u>	<u>150</u>	<u>299</u>	<u>82</u>

Further particulars regarding the notification of the diseases enumerated in this group will be found under the heading "Infectious Diseases" on page 14.

Influenza.—There was an increased prevalence of influenza during 1931 as compared with the previous year, but fortunately nothing in the nature of an epidemic was recorded. Only 15 deaths were certified as directly due to influenza, while 94 cases were complicated with other diseases. Of these latter deaths, 42 were associated with pneumonia, 14 with bronchitis, 9 with other respiratory conditions, and 29 with various other causes.

Tuberculosis.—The deaths from all forms of tuberculosis numbered 411—225 males and 186 females. The death-rate for the year was equivalent to .93 per 1,000 of the population, compared with 1.0 in 1930.

Included under this heading are pulmonary tuberculosis 326, tuberculous meningitis 38, tuberculosis of abdomen 17, and infection of various other regions 30.

The subject of tuberculosis is more fully referred to by the Tuberculosis Officer in his report on page 21.

Cancer.—The total number of deaths attributed to malignant disease during the year was 686, and of these 450 were certified as “carcinoma,” 26 as “epithelioma,” 21 as “sarcoma,” and 189 as “malignant disease.”

In regard to the site or region affected, a very large proportion of the cases were connected with the digestive organs, viz., stomach and œsophagus 168, intestines and rectum 125, tongue and mouth 40, pancreas 24, liver and gall bladder 25, and pylorus 4.

Malignant disease of the genital organs was the cause of 68 deaths among women. In 44 of these deaths the uterus was stated to be the part affected, while the ovaries and vagina were given as the site in 24 instances. The female breast was affected in 69 cases.

In the following Table the deaths are classified according to age and sex and the organ or site affected :—

SITE.	SEX AND AGE-PERIODS.																		TOTALS.				
	Under 15.		-20.		-25.		-35.		-45.		-55.		-60.		-65.		-75.					75 and upwards.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Both Sexes.
Brain
Jaw, Face, and Ear	1	...	...	...	...	1	...	3	...	2	...	3	2	1	4	10	7	17
Tongue and Mouth	4	...	7	1	11	...	11	1	3	2	36	4	40
Larynx, Pharynx, and Neck	2	6	...	4	2	2	2	6	1	5	2	23	9	32
Thorax and Lungs	1	...	2	2	2	2	1	1	2	2	3	7	2	3	13	17	30
Breast	1	1	5	...	17	...	6	...	12	...	18	...	10	1	69	70
Stomach & Œsophagus	1	...	3	6	16	12	15	5	18	13	22	26	15	16	90	78	168
Liver and Gall Bladder	1	...	4	1	1	...	2	4	6	3	1	2	15	10	25
Intestines and Rectum	1	...	3	3	10	3	2	14	11	10	24	12	11	21	62	63	125
Pancreas	1	1	2	2	1	2	2	4	7	1	1	10	14	24	24
Pylorus	1	...	2	1	...	...	3	1	4
Uterus	2	...	7	...	15	...	5	...	2	...	11	...	2	...	44	44
Ovaries and Vagina	1	...	3	...	6	...	2	...	3	...	6	...	3	...	24	24
Penis and Scrotum	1	...	...	...	...	...	...	...	...	1	...	1	1
Abdomen and Pelvis	2	1	...	2	1	2	2	1	7	1	3	7	15	22	22
Kidney	1	...	...	...	...	...	...	...	...	...	1	1	4	...	1	1	7	8
Prostate	1	...	...	...	2	...	7	...	2	...	12	...	12
Bladder	3	1	...	2	...	1	1	1	...	1	4	6	10
Bones	1	...	1	...	...	...	1	...	...	1	2	3	2	...	1	6	6	12
Ductless Glands	1	...	...	...	2	1	1	3	...	4	...	1	1	...	5	9	14
Otherwise specified	1	1	...	1	...	...	1	...	...	...	...	...	...	2	2	4
Totals	M.	...	...	...	1	...	5	...	11	...	52	...	38	...	57	...	94	...	43	...	301	...	686
	F.	...	...	...	2	...	4	...	32	...	62	...	43	...	60	...	110	...	72	...	385	...	686

For a considerable number of years malignant disease has been one of the increasing causes of death, but how far this may be due to the more enlightened methods of diagnosis and the greater attention to certification it is difficult to say. A factor which cannot be overlooked is the extended expectation of life, under which the number of elderly persons who are liable to be affected by cancer has greatly increased during the last fifty years.

A study of the ages at death indicates that cancer is a disease associated with advancing years. In Edinburgh during 1931, 63 per cent. of the deaths from cancer related to persons over 60 years of age.

To whatever cause the increase may be attributed, the disease continues to exact a heavy toll of the community. The causation of cancer still remains obscure, and meantime until a remedy has been discovered, extended facilities for surgical and hospital treatment are an urgent necessity.

The accompanying Table shows the number of deaths occurring in Edinburgh since 1921 :—

YEAR.	MALE.	FEMALE.	TOTAL.	RATE PER 1000 LIVING.
1921	246	379	625	1·5
1922	273	384	657	1·6
1923	267	377	644	1·5
1924	290	393	683	1·6
1925	284	391	675	1·6
1926	276	377	653	1·5
1927	309	407	716	1·7
1928	305	382	687	1·6
1929	344	415	759	1·7
1930	316	400	716	1·6
1931	301	385	686	1·5

Diseases of the Nervous System.—The deaths due to diseases of the nervous system numbered 773—359 males and 414 females. Of these, 635 were classified as cerebral hæmorrhage, embolism, and thrombosis. There were 21 deaths ascribed to general paralysis of the insane and 6 to locomotor ataxy. Meningitis, other than tuberculous or cerebro-spinal, accounted for 18 deaths while epilepsy was stated to be the cause in 13 instances. Of the total deaths in the nervous group 484 or 62·6 per cent. referred to persons over the age of 65 years.

Diseases of the Circulatory System.—The deaths included in this group numbered 1,166. There were 341 attributed to endocarditis and valvular disease, 430 to diseases of the myocardium, and 262 to various other heart conditions. Arterio-sclerosis and gangrene were certified as the cause of 117 deaths, while 6 were classified as due to aneurysm.

Diseases of the Respiratory System.—The number of deaths allocated to the respiratory group, excluding those associated with influenza, was 917, as compared with 930 in 1930 and 1,092 in 1929. Pneumonia was certified as the cause of death in 486 cases, and bronchitis in 352 cases. The deaths of children under the age of 5 years numbered 225, of which 140 related to infants under one year. Of these latter deaths 109 were classified as pneumonia and 27 as bronchitis.

Diseases of the Digestive System.—The deaths recorded under this heading numbered 257. This figure does not include 29 deaths from diarrhœa and enteritis in children under the age of two years, which are assigned to the epidemic diseases group. Gastric and duodenal ulcer caused 50 deaths, appendicitis 50, hernia and intestinal obstruction 41, and diseases of the liver and gall bladder 51.

Diseases of the Genito-Urinary System caused 239 deaths during the year, and of these 166 were attributed to nephritis, 25 to diseases of the prostate, and 48 to other conditions.

INFECTIOUS DISEASES.

The various diseases falling to be dealt with under this heading are :—

- (1) Diseases which are notified in terms of Section 6 of the Infectious Disease (Notification) Act, 1889.
- (2) Diseases which have been added to the list by Orders made by the Department of Health for Scotland under Section 78 of the Public Health (Scotland) Act, 1897.
- (3) Measles and whooping cough, which have been made temporarily notifiable by the Local Authority.

The following Table shows the number of notifications for each month of the year :—

Disease.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Smallpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Membranous Croup .	170	118	83	74	86	49	53	48	57	53	49	61	901
Erysipelas	27	25	22	21	18	16	21	20	19	27	32	32	280
Scarlet Fever	106	66	68	48	37	45	41	34	46	53	62	41	647
Typhus . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhoid Fever . . . . .	...	1	...	1	1	4	...	1	1	1	...	4	14
Relapsing Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	11	6	12	7	11	7	11	7	13	7	12	9	113
Puerperal Pyrexia	6	10	7	7	7	2	8	1	8	9	13	12	90
Cerebro-spinal Fever	4	5	4	6	9	4	3	2	2	3	3	3	48
Infective Jaundice . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis, Pulmonary	44	51	64	59	47	50	44	49	39	44	34	40	565
Tuberculosis, other forms	24	16	26	18	37	31	17	21	15	18	14	17	254
Ophthalmia Neonatorum	1	2	2	2	...	2	3	1	1	...	...	...	14
Malaria	2	...	...	...	...	1	1	...	1	1	3	2	11
Dysentery . . . . .	...	1	...	4	...	...	1	...	...	1	...	1	8
Trench Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia	91	79	62	53	31	31	28	11	21	30	39	62	538
Acute Influenzal Pneumonia	9	28	50	5	1	1	...	1	2	3	6	4	110
Measles	33	69	86	87	78	139	83	26	36	25	45	104	811
Whooping Cough	83	103	117	114	121	72	56	45	38	28	32	30	839
Poliomyelitis . . . . .	...	...	...	...	...	...	...	...	2	1	...	...	3
Polio-encephalitis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica . . . . .	...	...	...	1	...	2	2	...	...	...	...	2	7
Chickenpox	147	234	257	173	87	94	91	23	34	138	177	238	1,693
Totals	758	814	860	680	571	550	463	290	335	442	521	662	6,946

Enteric Fever.—During the year seven cases of enteric and seven of paratyphoid fever B. were notified.

Three cases of enteric and three of paratyphoid contracted the infection in districts outside Edinburgh. Another case of paratyphoid occurred in a seaman employed on a vessel trading between Leith and Hamburg and it was assumed that he had been infected at the latter port.

The remaining seven cases were reported at different times from various districts of the City. There was no history suggesting a source of infection, and the examination of the immediate contacts gave negative results. None of the patients notified was employed in handling food.

Diphtheria.—The cases of diphtheria notified during 1931 numbered 901, as compared with 1,102 in 1930 and 1,171 in 1929.

The disease was most prevalent during the first three months of the year, when 371 cases were notified. There was no localised outbreak of the disease and no district was free from the infection. The incidence was most marked in Portobello and Gorgie Wards, where 64 and 62 cases occurred.

The type of diphtheria present in the City during the year was of a mild nature, and only 28 deaths occurred among the 901 cases notified. The death-rate was equal to 3·1 per cent. of the cases, and is the lowest that has been recorded.

The decline in the death-rate from diphtheria is one of the most satisfactory features of public health administration. During the quinquennial period 1887-1891 the average annual mortality from the disease was 24·8 per cent. of the cases notified. The stringent measures adopted to control the disease, together with the more scientific methods of treatment, have effected a steady decline in the mortality. During the period 1927-1931 the very satisfactory average of 5·2 per cent. of the cases was recorded.

The number of cases of diphtheria notified in each of the last five years, together with the deaths and death-rates per cent., were as follows :—

Year.	Notifications.	Deaths.	Death-rate per cent.
1927 . . .	599	44	7·3
1928 . . .	629	30	4·8
1929 . . .	1,171	55	4·7
1930 . . .	1,102	71	6·4
1931 . . .	901	28	3·1

Scarlet Fever.—The incidence of scarlet fever was remarkably low, only 647 cases having been reported during the year. In 1930 the notifications numbered 1,278, while the annual average for the ten years preceding 1931 was 1,705.

The death-rate was equal to ·6 per cent. of the cases notified, and is the same as that recorded for the previous year.

The following Table shows the number of cases notified in each of the last five years, with the deaths and death-rates per cent. of the cases :—

Year.	Notifications.	Deaths.	Death-rate per cent.
1927 . . .	1,848	19	1·0
1928 . . .	1,046	6	·6
1929 . . .	1,154	3	·3
1930 . . .	1,278	8	·6
1931 . . .	647	4	·6

Cerebro-Spinal Meningitis.—Forty-eight true cases of cerebro-spinal meningitis were reported during the year, and of these 17 had been sent to the City for treatment and were subsequently intimated to the Department. The deaths numbered 36, or 75 per cent. of the cases notified. Of the 36 deaths occurring in the City, 13 referred to persons from other parts of Scotland, while in another case, that of a child aged 2 years—the parents' address was given as London.

The age distribution of the cases and deaths were as follows :—

	Cases.	Deaths.
Under 1 year . . .	11	10
1-5 years . . .	19	16
5-15 „ . . .	4	1
15-25 „ . . .	8	5
25-45 „ . . .	6	4
Total . . .	<u>48</u>	<u>36</u>

Erysipelas.—During the year 280 cases of erysipelas were reported, as compared with 339 in 1930 and 338 in 1929. Eight deaths occurred among the 280 cases, giving a death-rate of 2·9 per cent.

Puerperal Fever and Pyrexia.—The notifications of puerperal fever numbered 113, and those of puerperal pyrexia 90. The puerperal fever case-rate, based on the actual number of live births occurring in the City during 1931, without any correction for transfers, was 15·7 per 1,000, and the death-rate was equivalent to 2·9. Further particulars regarding the notifications and deaths will be found in the Maternity and Child Welfare section of this Report (page 58).

Ophthalmia Neonatorum.—There were only 14 cases of ophthalmia neonatorum notified to the Department in the course of the year. These cases are fully reviewed in the Maternity and Child Welfare Report on page 58, and in the Report on Venereal Diseases on page 72.

Measles and Whooping Cough.—At no time during the year under report could it be said that either of these diseases was present in the City in epidemic form. Only the first case of measles or whooping cough occurring in a household requires to be notified, and the number of intimations received was as follows:—

Measles . . .	811 first cases.
Whooping cough .	839 „

The type of infection was very mild, and only 4 deaths were recorded from measles and 19 from whooping cough. Of these 23 deaths, 16 were complicated with respiratory conditions.

Tuberculosis.—There were 565 notifications of pulmonary tuberculosis and 254 of other forms of the disease. Particulars regarding these cases are given in detail in the Report by the Tuberculosis Officer on pages 23 and 28.

Other Diseases.—The other notifiable diseases are enumerated in the Table on page 14. The usual inquiries were made regarding these cases, but there was no special feature calling for comment.

In the Table on page 17 the notifications of the principal infectious diseases, together with the deaths, are tabulated according to Wards.

On page 18 the number of cases reported annually since 1888 are detailed along with the deaths and death-rates for the various diseases.

A statement showing the number of cases of the more important forms of infectious disease removed to hospital since 1890 is given on page 19.

In the Table on page 20 the notifications are tabulated according to the size of the house in which the infected persons resided.

Admissions to Hospitals.—The following statement shows the number of patients admitted during the year to the various Municipal Hospitals for the treatment of Infectious Diseases. The figures include cases admitted by arrangement with other Local Authorities.

	Pulmonary Tuberculosis.	Other Tuberculosis.	Other Diseases.	Total.
Colinton Mains Hospital . .	384	67	2,827	3,278
Royal Victoria Hospital . .	149	...	...	149
Polton Farm Colony . .	33	...	...	33
Totals . .	566	67	2,827	3,460

Table showing the number of Notifications and Deaths, together with Death-rate per cent. of Cases of each Disease, during forty-four years, 1888-1931.

Year.	Smallpox.			Typhus Fever.			Enteric Fever.			Puerperal Fever.			Diphtheria, Mem-branous Croup.			Scarlet Fever.			Erysipelas.			Cerebro-Spinal Fever.		
	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.	Cases.	Deaths.	Per-centage of Deaths to Cases.
1888	1	...	...	23	5	21.7	245	27	11.0	...	245	65	245	65	26.5	618	20	3.2	...	...	...	...	...	...
1889	...	...	...	46	9	19.5	320	32	10.0	...	354	98	354	98	27.1	1,255	29	2.3	...	...	...	...	...	...
1890	...	...	...	7	1	14.3	500	44	8.8	...	361	85	361	85	23.5	1,197	46	4.0	...	...	...	...	...	...
1891	...	...	...	...	...	...	445	42	9.4	...	207	48	207	48	23.1	979	49	5.0	...	...	...	...	...	...
1892	8	...	...	18	3	16.6	238	28	11.7	...	203	42	203	42	20.6	1,856	69	3.7	...	...	...	...	...	...
1893	51	1	1.9	6	1	16.6	274	36	13.1	...	251	62	251	62	24.7	1,629	49	3.0	...	...	...	...	...	...
1894	537	56	10.4	3	1	33.3	310	38	12.2	...	362	86	362	86	23.7	1,821	65	3.5	...	...	...	...	...	...
1895	109	16	14.6	...	...	...	417	54	12.9	...	314	65	314	65	20.7	2,832	65	2.2	...	...	...	...	...	...
1896	...	...	...	10	3	30.0	328	36	10.9	...	251	52	251	52	20.7	2,185	48	2.1	...	...	...	...	...	...
1897	...	...	...	3	1	33.3	254	24	9.4	...	214	44	214	44	20.5	2,597	93	3.5	...	...	...	...	...	...
1898	...	...	...	79	9	11.4	241	27	11.2	...	269	38	269	38	14.1	2,387	72	3.0	...	...	...	...	...	...
1899	...	...	...	12	3	25.0	289	39	13.4	...	279	28	279	28	10.0	1,185	50	4.2	...	...	...	...	...	...
1900	5	...	...	35	3	8.5	249	25	10.0	...	483	52	483	52	10.0	991	27	2.7	...	...	...	...	...	...
1901	6	1	16.6	14	2	14.3	215	30	13.9	...	542	58	542	58	10.7	892	26	2.9	...	...	...	...	...	...
1902	7	...	...	10	1	10.0	192	27	14.0	...	408	32	408	32	7.8	812	30	3.6	...	...	...	...	...	...
1903	5	1	20.0	1	...	...	237	22	9.2	...	575	59	575	59	10.2	1,415	53	3.7	...	...	...	...	...	...
1904	168	15	8.9	6	...	...	196	22	11.2	...	752	63	752	63	8.3	1,070	31	2.8	...	...	...	...	...	...
1905	2	...	...	1	1	100.0	210	20	9.5	...	674	61	674	61	9.0	832	15	1.8	...	...	...	...	...	...
1906	...	...	...	...	...	...	144	11	7.6	...	667	48	667	48	7.1	987	34	3.4	...	...	...	...	...	...
1907	...	...	...	...	...	...	103	11	10.6	...	635	32	635	32	5.0	1,110	24	2.1	...	...	...	...	...	...
1908	20	...	...	...	...	...	68	6	8.8	...	330	16	330	16	4.1	1,993	32	1.6	...	...	...	...	...	...
*1909	2	...	...	...	...	...	39	5	12.8	...	423	38	423	38	8.9	1,522	50	3.2	...	...	...	...	...	...
1910	...	...	...	...	...	...	43	6	13.9	...	511	60	511	60	11.7	1,512	42	2.7	...	...	...	...	...	...
1911	...	...	...	...	...	...	31	3	9.7	...	605	49	605	49	8.0	1,075	24	2.2	...	...	...	...	...	...
1912	...	...	...	...	...	...	29	4	13.7	...	426	29	426	29	6.8	893	10	1.1	...	...	...	...	...	...
1913	...	...	...	...	...	...	45	10	22.2	...	448	35	448	35	7.8	1,675	43	2.5	...	...	...	...	...	...
1914	...	...	...	...	...	...	63	12	19.0	...	902	96	902	96	10.6	2,270	36	1.5	...	...	...	...	...	...
1915	...	...	...	...	...	...	21	3	14.3	...	900	107	900	107	11.8	1,748	58	3.3	...	...	...	...	...	...
1916	...	...	...	...	...	...	30	2	6.6	...	823	82	823	82	9.9	1,411	31	2.1	...	...	...	...	...	...
1917	...	...	...	...	...	...	6	2	33.3	...	584	65	584	65	11.1	748	16	2.1	...	...	...	...	...	...
1918	...	...	...	...	...	...	14	1	7.1	...	627	60	627	60	9.5	852	26	3.0	...	...	...	...	...	...
1919	...	...	...	...	...	...	6	...	...	...	734	79	734	79	10.7	1,459	39	2.6	...	...	...	...	...	...
1920	9	...	...	...	...	...	12	2	16.6	...	1014	63	1014	63	6.2	1,420	14	0.9	...	...	...	...	...	...
†1921	...	...	...	...	...	...	...	...	...	...	991	75	991	75	7.5	2,163	42	1.9	...	...	...	...	...	...
1922	...	...	...	...	...	...	16	4	25.0	...	800	57	800	57	7.1	1,702	32	1.8	...	...	...	...	...	...
1923	...	...	...	...	...	...	29	2	6.9	...	770	69	770	69	8.9	1,897	93	3.8	...	...	...	...	...	...
1924	...	...	...	...	...	...	27	1	3.7	...	720	73	720	73	10.1	1,761	68	3.8	...	...	...	...	...	...
1925	...	...	...	...	...	...	30	1	3.3	...	870	82	870	82	9.4	2,351	62	2.6	...	...	...	...	...	...
1926	...	...	...	...	...	...	33	7	21.2	...	552	43	552	43	7.8	1,852	32	1.7	...	...	...	...	...	...
1927	...	...	...	...	...	...	78	2	2.6	...	599	44	599	44	7.3	1,848	19	1.0	...	...	...	...	...	...
1928	...	...	...	...	...	...	19	2	10.5	...	629	30	629	30	4.8	1,046	6	.6	...	...	...	...	...	...
1929	...	...	...	...	...	...	76	2	2.6	...	1171	55	1171	55	4.7	1,154	3	.3	...	...	...	...	...	...
1930	...	...	...	...	...	...	35	2	5.7	...	1102	71	1102	71	6.4	1,278	8	.6	...	...	...	...	...	...

† In 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, the actual deaths occurring among cases notified through taking prices after 31st Dec. 1920 are shown. In 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, the actual deaths occurring among cases notified through taking prices after 31st Dec. 1920 are shown.

Year.	Smallpox.		Typhus Fever.		Enteric Fever.		Puerperal Fever.		Diphtheria, Membranous Croup.		Scarlet Fever.		Erysipelas.	
	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.	Admissions.	Rate per cent. to Total Cases Notified.
1890	...	...	7	100-00	241	48-02			122	29-59	480	40-10		
1891	...	...	1	100-00	227	51-01			82	39-61	433	44-12		
1892	8	100-00	16	88-88	115	48-31			66	32-51	862	46-44		
1893	51	100-00	5	83-33	144	52-55			85	33-86	780	47-88		
1894	533	99-25	3	100-00	176	56-77			122	33-70	958	52-60		
1895	109	100-00	...	...	288	69-06			146	46-49	1519	53-63		
1896	...	...	10	100-00	233	71-03			108	43-02	1381	63-20	Not Notified until 1902.	
1897	...	...	3	100-00	175	68-89			109	50-93	1658	63-84		
1898	7	100-00	78	98-73	143	51-03			111	41-26	1350	56-55		
1899	...	...	11	91-66	207	71-62			136	48-74	816	68-86		
1900	5	100-00	35	100-00	181	72-69			309	63-97	676	68-21		
1901	6	100-00	14	100-00	166	76-85			364	67-15	601	67-37		
1902	7	100-00	10	100-00	153	79-68		19-23	297	72-79	605	74-50		
1903	5	100-00	...	...	214	90-29	5	...	429	74-60	1187	83-88	207	40-35
1904	168	100-00	6	100-00	174	88-77	...	7-14	579	76-99	942	88-03	154	35-48
1905	2	100-00	1	100-00	179	85-23	4	36-36	581	86-20	740	88-82	136	38-52
1906	...	...	...	...	132	91-66	7	63-63	589	88-30	880	89-15	126	43-29
1907	...	...	1	100-00	91	88-34	12	63-15	546	85-98	1026	92-43	146	43-32
1908	17	85-00	...	...	61	89-70	9	69-23	338	86-88	1882	94-43	152	50-66
1909	2	100-00	...	...	35	90-00	14	60-86	371	87-70	1442	94-74	133	51-15
1910	...	...	...	...	39	90-69	11	57-89	476	93-15	1423	94-11	108	52-17
1911	...	...	...	...	29	93-55	8	53-33	556	91-90	1007	93-67	91	43-54
1912	...	...	...	...	27	93-10	4	50-00	396	92-95	848	94-96	131	54-35
1913	...	...	...	...	41	91-11	8	44-44	416	92-85	1612	96-23	132	55-23
1914	...	...	...	...	56	88-88	12	70-59	856	94-90	2206	97-18	108	48-43
1915	...	...	...	...	19	90-47	8	50-00	883	98-11	1659	94-90	146	52-50
1916	...	...	...	...	28	93-33	10	52-63	797	96-84	1383	98-01	144	51-42
1917	...	...	...	...	5	83-33	11	50-00	567	97-08	727	97-19	57	33-33
1918	...	...	...	...	11	78-57	6	60-00	606	96-65	841	98-70	74	46-25
1919	...	...	...	...	6	100-00	7	36-84	716	97-54	1435	98-35	69	54-76
1920	9	100-00	...	...	10	83-33	13	50-00	981	96-74	1382	97-32	75	42-37
†1921	...	...	...	...	6	66-66	17	47-22	953	96-16	2103	97-22	152	55-27
1922	...	...	...	...	15	93-75	9	52-94	767	95-87	1611	94-65	163	44-90
1923	...	...	...	...	27	93-10	19	57-57	741	96-23	1786	94-15	117	44-48
1924	...	...	...	...	22	81-48	25	62-50	699	97-08	1644	93-35	138	53-69
1925	...	...	...	...	27	90-00	16	59-26	845	97-12	1944	82-68	84	41-79
1926	...	...	...	...	26	78-88	27	67-50	524	94-92	1534	82-83	87	32-22
1927	...	...	...	...	62	79-48	45	71-42	578	96-49	1593	86-20	77	31-95
1928	...	...	...	...	16	84-21	52	67-53	602	95-70	849	81-16	114	47-50
1929	...	...	...	...	70	92-10	106	80-91	1145	97-77	970	84-05	111	39-22
1930	...	...	...	...	33	94-28	74	91-35	1086	98-56	1066	83-41	156	46-15
1931	...	...	...	...	14	100-00	108	95-57	873	96-88	564	87-17	174	51-32
													127	45-35

† City Boundaries extended to include Leith and Suburban area.

Table showing the Notifications of Infectious Diseases, classified according to size of house in which the infected persons resided.

DISEASE.	1 Apartment.		2 Apartments.		3 Apartments.		4 Apartments.		5 Apartments.		Over 5 Apartments.		Institutions and Military Quarters.		Total Cases.
	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	Number of Cases.	Percentage to Total Cases.	
Diphtheria	66	7.3	352	39.1	215	23.8	63	7.0	33	3.7	121	13.4	51	5.7	901
Erysipelas	12	4.3	103	36.8	58	20.7	32	11.4	18	6.4	23	8.2	34	12.2	280
Scarlet Fever	30	4.6	211	32.6	166	25.7	66	10.2	47	7.3	69	10.7	58	8.9	647
Typhoid Fever	1	7.1	1	7.1	3	21.5	1	7.1	...	...	3	21.5	5	35.7	14
Puerperal Fever and Puerperal Pyrexia	8	3.9	71	35.0	53	26.0	16	8.0	7	3.4	3	1.5	45	22.2	203
Cerebro-spinal Meningitis	4	8.3	13	27.1	6	12.5	5	10.4	1	2.1	2	4.2	17	35.4	48
Totals	121	5.8	751	35.9	501	23.9	183	8.7	106	5.1	221	10.6	210	10.0	2,093

TUBERCULOSIS.

REPORT BY TUBERCULOSIS OFFICER.

I have the honour to submit the Annual Report on the work done in connection with the Tuberculosis Department for the year 1931.

The slow but progressive fall in the death-rate from Tuberculosis continues. Whilst the figure recorded in 1930 ($\cdot 76$) represented the lowest mortality ever attained in the City, a still further decline is reported for the year 1931, the rate being $\cdot 74$ per 1000 of the population, thus constituting a new record.

A distressing feature which emerges from a careful survey of the mortality figures over a number of years is the persistently high death-rate from pulmonary tuberculosis which prevails, especially in the female sex, in the 15-25 years period. The same melancholy fact is found in analysing the statistical returns from other large towns. The precise factors underlying this occurrence are obscure, but they may perhaps be connected with a tuberculous infection in childhood which, being neglected, becomes manifest in adolescence and early adult life. During adolescence various factors, physiological and economic, combine to diminish the natural resisting powers of the individual.

Not an inconsiderable amount of the routine work at the Tuberculosis Dispensaries consists in the continued supervision of young children from infected homes. In many of the cases the health and future life of these patients are seriously jeopardised by the pernicious combination of the presence of infection and unhygienic, overcrowded and often poverty-stricken surroundings. It is felt that in such cases some real and permanent good could be accomplished by the removal of such children, for a period, to a Preventorium in which, as a result of good food, fresh air, and cleanliness, their bodily resistance to the disease would be much increased and the chances of later mischief minimised. The addition of a Preventorium to the present anti-tuberculosis scheme would mark a real advance in the preventive measures against tuberculosis.

In the control of tuberculosis the paramount importance of the segregation of the advanced cases has long been recognised—it is the heart of the tuberculosis problem—and it is to be regretted that the present number of beds available for the reception of cases of this type is so inadequate. My predecessor has previously drawn attention to this fact and emphasised the pressing need for more ample accommodation so that the premature discharge of open cases of the disease could be avoided. The discharge from hospital of the advanced infectious case, often to unsatisfactory home conditions, is contrary to the principle for which the hospital was conceived.

Owing to the munificent generosity of a patient's employer the male and female Tuberculosis Wards at Colinton Hospital have recently been equipped with a wireless installation, including head-phones and loud speakers. This acquisition is gratefully appreciated by the patients, as it helps to beguile the long tedious hours of enforced bed rest.

It is proposed to construct a bowling green adjoining the male wards for the use of such patients as may be considered able to enjoy this form of amusement and exercise, without prejudice to their physical condition.

During the year 1931, 565 cases of pulmonary tuberculosis were notified. In a considerable proportion of these cases there is no record of the sputum having been examined bacteriologically. In the vast majority of patients suffering from pulmonary tuberculosis, sputum is available for investigation, and in not a few of them earlier diagnosis would indubitably be established if full advantage were taken of the facilities

for bacteriological sputum examination which is offered by the Department. Not infrequently much valuable time is wasted in treating the patient for supposed "bronchitis," "bloodlessness," "indigestion," etc., when examination of the sputum would put the diagnosis beyond doubt. For the same reason patients are sometimes notified as cases of pulmonary tuberculosis when repeated sputum reports would show them to be suffering from one of the various lung affections which may simulate tuberculosis. In the diagnosis of consumption, the demonstration of the tubercle bacillus in the expectoration is the only infallible test we at present possess, and many more cases of really early lung tubercle would be revealed if sputum examination were made a routine procedure in all cases in which it is available.

The increasing number of cases of pulmonary tuberculosis first notified to the Department after the death of the patient is a discouraging feature to which reference has been made in former reports. In 1924 of all notifications of pulmonary tuberculosis, 13·2 per cent. were received from the death returns. In 1928 this figure had increased to 17·7 per cent., and in 1931, 16·9 per cent. of the notified cases were brought to our notice by the death returns. These figures betray an apparent disregard by the medical practitioners of the statutory obligations which are imposed upon them by the Tuberculosis Regulations; and this, constituting as it does a serious and growing menace, must be viewed with grave concern, as it tends to compromise the efforts which are being made to control and eradicate the disease.

Within quite recent times considerable attention has been given, especially in Germany, to a form of treatment devised by Dr. Gerson of Cassel, and claimed to be of considerable value in tuberculosis. Permission having been granted by the Public Health Committee, the treatment was given a thorough trial for a period of six months, on a number of selected cases in the Royal Victoria Hospital. It is of interest to note that this is the first occasion in Great Britain in which this form of treatment has been employed in a Sanatorium. Further reference is made to this subject on page 31 and it is hoped to publish at an early date a full report of the results and conclusions in one of the medical journals.

The proposed alterations in the lay-out of the wards for the treatment of surgical tuberculosis at Colinton Hospital, will, it is felt, be attended by decided advantages to patients and staff alike.

Full use is being made of the X-ray installation now in use at the Royal Victoria Dispensary. During the year, 1,315 photographs were taken, including new patients referred to the Dispensary for diagnosis, and the radiographic control of certain Sanatorium and out-patient pneumothorax cases.

The practice of artificial pneumothorax is being continued on an increasing scale. The patients, after discharge from Sanatorium, report at appropriate intervals for the necessary refills so that the treatment may be continued.

A detailed survey of the work undertaken at the various tuberculosis institutions will be found in the following pages.

It is a pleasure to acknowledge with gratitude, the continued and loyal support of the medical and nursing members of the Tuberculosis Staff.

I have the honour to be, Sir,

Your obedient Servant,

H. C. ELDER, M.B., Ch.B., M.R.C.P., D.P.H.,
Tuberculosis Officer.

PULMONARY TUBERCULOSIS.

Notifications.—In tabulating the notifications all duplicate intimations are excluded and those relating to non-residents are referred to the Health District in which their permanent residence is situated. After making these corrections and including the notifications of Edinburgh citizens transmitted from other districts, it was found that the number of new cases to be allocated to the City for the year 1931 was 565.

Pulmonary tuberculosis was made notifiable in 1907 and the following Table gives a record of the number of cases reported annually since that year. It should be noted that from 1921 onwards the figures refer to the extended City, including the old Burgh of Leith and the suburban area which was previously attached to the County of Midlothian. From a comparison of the figures it is interesting to find that with an additional 100,000 of a population the number of cases reported during 1931 was 565, while for 1920, the year previous to amalgamation, 616 cases were notified.

The following Table shows the number of cases intimated annually since 1907, together with the incidence rate per 1,000 of the estimated population.

1907 . . .	651 or 2.0 per 1000.	1919 . . .	602 „ 1.9 per 1000.
1908 . . .	713 „ 2.2 „	1920 . . .	616 „ 1.9 „
1909 . . .	744 „ 2.3 „	*1921 . . .	817 „ 1.9 „
1910 . . .	763 „ 2.3 „	1922 . . .	762 „ 1.8 „
1911 . . .	1052 „ 3.3 „	1923 . . .	692 „ 1.6 „
1912 . . .	1255 „ 3.9 „	1924 . . .	799 „ 1.9 „
1913 . . .	1010 „ 3.1 „	1925 . . .	670 „ 1.6 „
1914 . . .	808 „ 2.4 „	1926 . . .	656 „ 1.5 „
1915 . . .	690 „ 2.1 „	1927 . . .	593 „ 1.4 „
1916 . . .	628 „ 1.9 „	1928 . . .	581 „ 1.3 „
1917 . . .	655 „ 2.0 „	1929 . . .	596 „ 1.4 „
1918 . . .	643 „ 2.0 „	1930 . . .	558 „ 1.3 „
		1931 . . .	565 „ 1.3 „

* City Boundaries extended to include Leith and Suburban Area.

In the following Table the notifications are allocated to the different areas of the City. The incidence rates are calculated on the population in each district after adjustments have been made for residents in institutions and military quarters.

Area.	Notifications.	Rate per 1000 of Population.
Edinburgh	382	1.2
Leith	116	1.4
Suburban	28	.9
Institutions, etc.	39	...
Whole City	<u>565</u>	<u>1.3</u>

The age and sex distribution of the persons notified during 1931 are shown in the following Table. As regards the age incidence, 194 or 35.2 per cent. of the total notifications referred to persons under the age of 25 years. In 1921 the percentage for the corresponding age groups was 30.9. From this it might appear that pulmonary tuberculosis is becoming more prevalent among the younger members of the community. During the last few years, however, greater attention has been paid to the examination of family contacts, with the result that many young people whose condition would not have been detected until a later period in life are now being notified.

Sex.	Under 5.	5-10.	10-15.	15-20.	20-25.	25-30.	30-35.	35-40.	40-45.	45-50.	50-55.	55-60.	60-65.	65-70.	70 and over.	Total.
Male . . .	10	7	8	27	32	33	26	21	32	36	21	12	18	11	6	300
Female . . .	6	8	9	40	47	32	21	24	27	17	9	10	6	4	5	265
Total . . .	16	15	17	67	79	65	47	45	59	53	30	22	24	15	11	565

In the next Table the notifications are arranged according to the various Municipal Wards :—

Notifications. Rate per 1000.		Notifications. Rate per 1000.	
Calton	23 1.1	George Square	46 2.2
Canongate	32 1.5	St. Leonard's	34 1.7
Newington	13 .6	Portobello	29 1.1
Morningside	16 .7	South Leith	34 1.2
Merchiston	21 1.0	North Leith	47 2.4
Gorgie	24 .9	West Leith	15 .8
Haymarket	12 .7	Central Leith	20 1.4
St. Bernard's	13 .7	Liberton	9 .8
Broughton	17 1.1	Colinton	9 1.3
St. Stephen's	12 .7	Corstorphine and Cramond	10 .8
St. Andrew's	16 1.4	Institutions (other than	
St. Giles	43 2.1	Sanatoria)	27 ...
Dalry	31 1.5	Military Quarters	12 ...

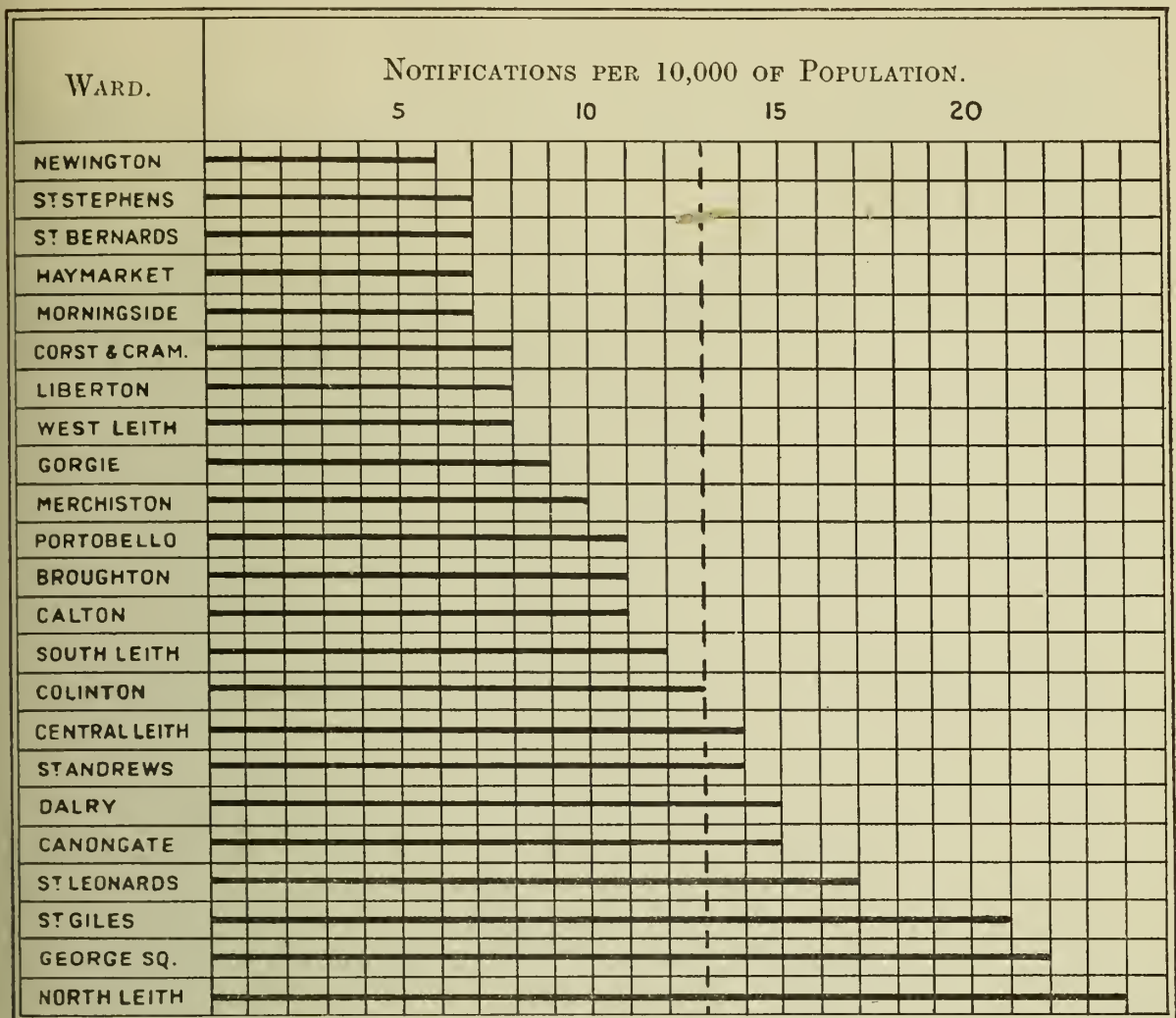
It has been pointed out in previous reports that the incidence of pulmonary tuberculosis varies in the respective Wards from year to year. A feature of the Ward incidence, however, is the consistency with which the central districts annually produce the greatest number of cases. Attention has constantly been directed to the housing conditions in these Wards. In most of the houses there is no means of through ventilation, and in the "Old Town" tenement dwellings the admission of sunshine is greatly restricted and in many instances shut out altogether. In addition to this the houses are generally overcrowded, and living in such conditions it is not surprising that many of the inmates sooner or later become victims of tuberculosis.

During recent years the Local Authority has made commendable efforts to clear out slum areas, and this, together with the preventive measures, which are constantly being advocated, has resulted in a steady decline in the incidence of the disease.

If this progress is to be maintained there must be a speeding up in the clearing of slum districts and a transference of the inhabitants of these places to more wholesome surroundings.

In the following diagram the incidence of pulmonary tuberculosis in the various Wards can be readily compared with the rate for the City.

PULMONARY TUBERCULOSIS.



----- Notification Rate for City

In the following Table the notifications are tabulated to show the type of house occupied by the infected persons :—

1-roomed house.	2-roomed house.	3-roomed house.	4 rooms and over.	Lodging-Houses.	Institutions, Etc.	Total.
46	203	145	112	20	39	565

Deaths.—The deaths of Edinburgh citizens from pulmonary tuberculosis numbered 326. Of these, 304 occurred within the City, 11 at Bangour Mental Hospital, which is situated in the County of West Lothian, while 11 were reported from various other parts of Scotland. The death-rate was equal to $\cdot 74$ per 1,000 of the population, and this is the lowest mortality rate from this form of tuberculosis that has been recorded for the City.

The death-rates for the last five years were as follows :—

Year . . .	1927.	1928.	1929.	1930.	1931.
Death-rate . . .	$\cdot 88$	$\cdot 79$	$\cdot 83$	$\cdot 76$	$\cdot 74$

The mortality in the different areas of the City during 1931 was as under :—

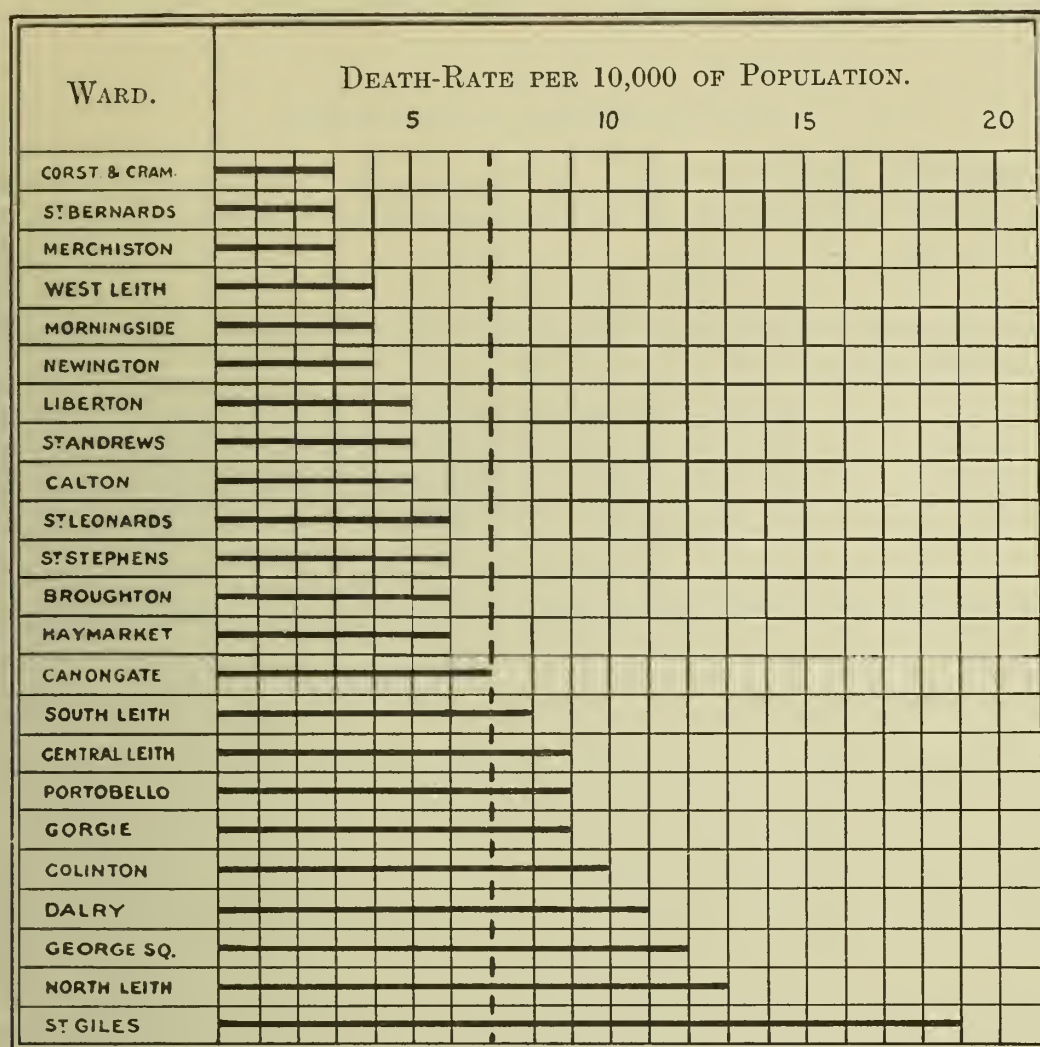
Area.	Deaths.	Rate per 1000 of Population.
Edinburgh	234	$\cdot 7$
Leith	69	$\cdot 8$
Suburban	17	$\cdot 6$
Institutions and Military Quarters	6	—
Whole City	326	$\cdot 7$

The accompanying Table shows the distribution of the deaths according to Wards :—

WARDS.	Number of Deaths.	Rate per 1000.	Sex.		Age-periods.															
			Male.	Female.	Under 15 years.		15 and under 20 years.		20 and under 25 years.		25 and under 35 years.		35 and under 45 years.		45 and under 55 years.		55 and under 65 years.		65 years and upwards.	
					M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Calton	11	$\cdot 5$	5	6	...	1	1	1	...	1	...	1	1	2	1	...	1	...	1	...
Canongate	15	$\cdot 7$	5	10	...	2	...	2	2	1	1	1	2	3	...	1	...	...	...	...
Newington	8	$\cdot 4$	6	2	1	...	1	...	1	...	2	2	...	...	1	...	...	...	...	...
Morningside	8	$\cdot 4$	3	5	...	...	...	1	...	1	...	1	...	...	...	1	1	...	2	1
Merchiston	7	$\cdot 3$	4	3	...	...	...	1	1	...	1	...	...	...	1	...	...	1	1	1
Gorgie	23	$\cdot 9$	13	10	...	...	1	...	1	3	...	2	4	2	5	1	2	1	...	1
Haymarket	10	$\cdot 6$	4	6	...	...	...	...	...	...	1	2	...	1	2	...	1	2	...	1
St. Bernard's	6	$\cdot 3$	4	2	...	...	...	2	...	...	2	...	1	...	...	1	...	...	...	...
Broughton	9	$\cdot 6$	5	4	...	...	...	...	...	2	1	1	2	...	...	...	2	1	...	...
St. Stephen's	10	$\cdot 6$	6	4	1	...	...	1	...	...	1	...	1	...	3	2	...	1	...	...
St. Andrew's	6	$\cdot 5$	3	3	1	...	...	1	...	...	...	2	...	...	2	...	...	...	...	...
St. Giles	38	1 \cdot 9	25	13	3	...	...	1	2	2	5	2	2	3	7	2	4	1	2	2
Dalry	23	1 \cdot 1	13	10	...	...	1	2	4	...	2	4	3	2	...	1	1	1	2	...
George Square	25	1 \cdot 2	14	11	...	1	...	1	1	2	2	1	3	2	3	3	4	1	1	...
St. Leonard's	12	$\cdot 6$	7	5	...	...	...	...	1	...	1	1	1	2	...	2	3	...	1	...
Portobello	23	$\cdot 9$	14	9	1	1	...	...	2	1	4	4	1	...	6	1	...	1	...	1
South Leith	23	$\cdot 8$	14	9	...	1	...	2	2	1	4	...	3	3	2	1	3	1	...	...
North Leith	26	1 \cdot 3	16	10	...	2	2	1	2	3	2	1	3	2	4	1	...	...	3	...
West Leith	8	$\cdot 4$	4	4	...	...	...	1	...	...	...	1	...	2	2	...	2	...	...	...
Central Leith	12	$\cdot 9$	8	4	...	...	1	...	2	2	2	1	1	1	...	...	1	...	1	...
Liberton	6	$\cdot 5$	4	2	...	...	...	...	...	...	...	1	2	1	1	...	1	...	...	...
Colinton	7	1 \cdot 0	3	4	...	...	...	...	...	...	1	...	1	3	...	...	1	1	...	...
Corstorphine and Cramond	4	$\cdot 3$	2	2	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	1
Institutions (other than Sanatoria)	5	...	2	3	...	...	...	...	...	...	...	1	...	2	1	...	1	...	...	...
Military Quarters	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Totals	326	$\cdot 7$	185	141	8	8	7	17	21	20	32	29	32	31	42	16	29	12	14	8
Edinburgh Area	234	$\cdot 7$	131	103	7	5	4	13	15	13	23	24	21	17	31	14	20	10	10	7
Leith Area	69	$\cdot 8$	42	27	...	3	3	4	6	6	8	3	7	8	8	2	6	1	4	...
Suburban Area	17	$\cdot 6$	9	8	1	...	...	...	...	1	1	1	3	4	2	...	2	1	...	1
Institutions	5	...	2	3	...	...	...	...	...	...	...	...	2	1	...	...	1	...	...	...
Military Quarters	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...

The following diagram shows in a graphic way the death-rates in each of the twenty-three Municipal Wards:—

PULMONARY TUBERCULOSIS.



----- Death Rate for City

Deaths in relation to Notifications.—The deaths from pulmonary tuberculosis since 1921 are tabulated to show the lapse of time between notification and death:—

Year.	Within 1 month.	From 1 to 3 months.	From 3 to 6 months.	From 6 months to 1 year.	From 1 to 2 years.	Over 2 years and under 3.	Over 3 years and under 4.	From 4 years upwards.	Notified after Death.	Total.
1921	45	47	29	60	43	21	7	19	110	381
1922	38	37	43	56	53	23	13	25	79	367
1923	51	49	30	45	49	35	13	38	87	397
1924	49	48	49	51	67	34	21	49	56	424
1925	57	47	35	38	48	28	14	47	87	401
1926	49	42	36	38	42	27	11	42	69	356
1927	46	41	28	47	60	30	14	47	68	381
1928	56	41	23	26	47	26	14	51	61	345
1929	53	33	39	36	52	23	11	53	62	362
1930	56	34	26	29	53	14	14	39	68	333
1931	47	33	27	25	43	26	20	50	55	326

It will be observed that no fewer than 55 or 16·9 per cent. of the deaths related to cases which had not been previously notified. It is greatly to be regretted that the existence of so many cases should first come to the knowledge of the Department through the medium of the weekly death returns.

The question has been repeatedly referred to in these Reports and I would again direct the attention of the Medical Profession to the Tuberculosis Regulations, 1912,

which provide "That every Medical Practitioner attending or called in to visit any person, shall, within 48 hours after first becoming aware that such person is suffering from pulmonary tuberculosis, complete, sign and transmit a notification in the form set forth in Schedule A of these Regulations, to the Medical Officer of Health of the district in which the person is residing."

NON-PULMONARY TUBERCULOSIS.

Notifications.—The total number of new cases of non-pulmonary tuberculosis notified to the Department during the year was 254, as compared with 295 in 1930 and 317 in 1929.

The following summary shows the number of non-pulmonary cases reported in each of the last eleven years :—

1921	.	.	.	537	or	1.3	per	1000		1927	.	.	.	359	or	.8	per	1000
1922	.	.	.	485	„	1.1	„			1928	.	.	.	347	„	.8	„	
1923	.	.	.	482	„	1.1	„			1929	.	.	.	317	„	.7	„	
1924	.	.	.	455	„	1.1	„			1930	.	.	.	295	„	.7	„	
1925	.	.	.	498	„	1.2	„			1931	.	.	.	254	„	.6	„	
1926	.	.	.	433	„	1.0	„											

The age incidence of the notified cases is shown in the accompanying Table :—

Sex.	Under 5.	5-10.	10-15.	15-20.	20-25.	25-30.	30-35.	35-40.	40-45.	45-50.	50-55.	55-60.	60-65.	65-70.	70 and over.	Total.
Male . .	25	22	15	12	9	5	9	1	...	3	3	3	3	1	3	114
Female . .	33	20	13	12	13	12	3	3	6	5	5	6	2	5	2	140
Totals . .	58	42	28	24	22	17	12	4	6	8	8	9	5	6	5	254

Young children notified as suffering from non-pulmonary tuberculosis formed the largest proportion of the cases. Of the 254 cases reported during the year, 100 or 39.3 per cent. referred to children under the age of 10 years. In 1921 there were 537 cases intimated to the Department, and of these 252 or 46.9 per cent. were children under 10 years.

The number of notifications has shown a steady decline since 1926. It is not unreasonable to assume that the gratifying reduction in the number of cases during the last few years is due in a large measure to the strict enforcement of the Regulations relative to the standard and purity of the milk supplied to the citizens.

In the following Table the notifications are tabulated according to the various Municipal Wards in which the infected persons reside :—

	Notifications.	Rate per 1000.		Notifications.	Rate per 1000.
Calton	24	1.1	George Square	13	.6
Canongate	14	.7	St. Leonard's	19	.9
Newington	6	.3	Portobello	17	.7
Morningside	2	.1	South Leith	17	.6
Merchiston	7	.3	North Leith	14	.7
Gorgie	7	.3	West Leith	12	.6
Haymarket	7	.4	Central Leith	15	1.1
St. Bernard's	5	.3	Liberton	4	.4
Broughton	5	.3	Colinton	5	.7
St. Stephen's	10	.6	Corstorphine and Cramond	5	.4
St. Andrew's	7	.6	Institutions (other than		
St. Giles	16	.8	Sanatoria)	9	...
Dalry	12	.6	Military Quarters	2	...

Edinburgh, 171=.5 ; Leith, 58=.7 ; Suburban, 14=.5 ; Institutions, etc., 11.

The undernoted Table gives particulars regarding the housing accommodation of the patients at date of notification :—

1-roomed house.	2-roomed house.	3-roomed house.	4 rooms and over.	Lodging-Houses.	Institutions, Etc.	Total.
16	95	76	53	3	11	254

In the accompanying list the cases are classified to show the part of the body affected by the disease :—

Glands	69	Rib	2
Abdomen	68	Leg	1
Meninges and Brain	41		— 12
Spine	18		
Genito-Urinary	10		
General	6	Joints—	
Lupus	3	Hip	16
	— 215	Knee	4
		Ankle	1
		Shoulder	1
			— 22
Bones (except Spine)—		Others	5
Hand	5		
Arm	2		
Thigh	2	Total	<u>254</u>

Deaths.—The deaths from all forms of non-pulmonary tuberculosis allocated to the City during the year numbered 85, as compared with 90 in 1930 and 112 in 1929.

In the following Table particulars are given regarding the ages at death and the organ or region affected by the disease :—

Cause of Death.	All Ages.			Age Periods.											
	Both Sexes.	Males.	Females	-1	1-	5-	10-	15-	25-	35-	45-	55-	65-	75 and over.	
Tuberculous Meningitis	38	15	23	3	19	6	3	4	1	...	2	...	...	...
Tuberculosis of Intestines and Peritoneum	17	8	9	...	4	...	3	1	3	1	...	3	1	1	
" " Vertebral Column	5	1	4	...	...	...	...	2	...	...	1	1	1	...
" " Other Bones and Joints	5	3	2	...	1	...	...	...	1	...	1	...	2	...
" " Skin	1	1	...	...	...	...	...	1	...	...	...	...	...	...
" " Lymphatic System	1	...	1	...	1	...	...	...	...	...	...	...	...	...
" " Genito-urinary System	1	1	...	...	...	...	...	...	...	...	...	1	...	...
Disseminated Tuberculosis, acute & chronic	17	11	6	3	...	1	1	2	2	1	4	3	...	...
Other Non-Pulmonary Tuberculosis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	85	40	45	6	25	7	7	10	7	2	8	8	4	1	

The undernoted death-rates taken from the Registrar-General's preliminary report for 1931, will enable comparison to be made relative to the incidence of tuberculosis in Edinburgh and other large centres of population :—

Town.	Death-rate per 1000.		Town.	Death-rate per 1000.	
	Pulmonary Tuberculosis.	All forms of Tuberculosis.		Pulmonary Tuberculosis.	All forms of Tuberculosis.
Glasgow	·86	1·18	Paisley	·57	·82
Edinburgh	·74	·93	Greenock	·90	1·20
Dundee	·73	·95	Motherwell & Wishaw	·45	·72
Aberdeen	·68	·90	Clydebank	·66	·89

The next Table shows the number of deaths from tuberculosis which have occurred annually since 1921 :—

YEAR.	Pulmonary Tuberculosis.				Other Tuberculous Disease.				All Tuberculosis.	
	Deaths.			Rate per 1000.	Deaths.			Rate per 1000.	Deaths.	Rate per 1000.
	Male.	Female.	Total.		Male.	Female.	Total.			
1921	187	194	381	·9	96	87	183	·4	564	1·3
1922	187	180	367	·9	72	93	165	·4	532	1·3
1923	214	183	397	·9	70	68	138	·3	535	1·2
1924	225	199	424	1·0	73	70	143	·3	567	1·3
1925	215	186	401	·9	89	76	165	·4	566	1·3
1926	201	155	356	·8	60	66	126	·3	482	1·1
1927	193	188	381	·9	75	55	130	·3	511	1·2
1928	195	150	345	·8	46	57	103	·2	448	1·0
1929	198	164	362	·8	69	43	112	·3	474	1·1
1930	174	159	333	·8	37	53	90	·2	423	1·0
1931	185	141	326	·7	40	45	85	·2	411	·9

INSTITUTIONAL TREATMENT.

The total number of beds provided for the residential treatment of tuberculosis patients at the various Municipal Hospitals is as follows :—

Royal Victoria Hospital, Pulmonary Tuberculosis	.	.	76 beds.
Polton Farm Colony	„	„	18 „
Colinton Mains Hospital	„	„	148 „
„ „ „ Non-pulmonary Tuberculosis	.	.	73 „
Total	.	.	315 beds.

Royal Victoria Hospital.—The accommodation available at this hospital is used for the treatment of patients in the incipient or early stages of pulmonary tuberculosis.

There is always a steady demand for admission to the institution and a careful selection of the patients is made to insure that the maximum benefit will be derived from a period of residence. During the year 149 patients were admitted and 151 were discharged. The condition of the patients on discharge showed that marked improvement had resulted from the course of treatment, and in a large percentage of the cases the disease had been definitely arrested.

The accompanying Table shows the number of patients passing through the hospital in the course of the year :—

	Remained at 1st January.	Admitted.	Discharged.	Died.	Remaining at 31st December.
Men . .	31	58	56	...	33
Women . .	29	79	74	...	34
Children .	12	12	21	...	3
Totals .	72	149	151	...	70

Of the 151 patients discharged from the institution, 29 had been admitted for observation purposes and were finally diagnosed to be suffering from respiratory conditions other than pulmonary tuberculosis. The remaining 122 patients were definitely recognised as cases of tuberculosis, and it is only these that are classified in the following age groups :—

	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	Over 60.	Total.
Males	1	2	9	16	15	4	3	...	50
Females	6	2	10	29	12	8	3	2	72
Totals	7	4	19	45	27	12	6	2	122

The results of sputum tests made on admission to hospital and immediately before discharge are tabulated in the undernoted summary :—

ON ADMISSION.			ON DISCHARGE.		
	T.B. Present.	T.B. Absent.		T.B. Present.	T.B. Absent.
Stage I. . .	23	36		14	45
„ II. . .	17	19		16	20
„ III. . .	20	7		19	8
Totals	60	62		49	73

The complications noted in patients were as under :—

Asthma	1	Emphysema	2
Tuberculosis of Larynx	2	Pneumonic Phthisis	1
Meningitis	2	Acute Miliary Tuberculosis	1
Cold Abscess	1	Threatened Abortion	1
Bronchitis	1		

The average length of residence of the discharged patients was 177 days.

The beneficial effects of occupational treatment on the mental outlook of the tuberculosis patient have been referred to in previous reports. Carefully graded and suitable forms of light work are provided, under medical supervision, for the adult patients with satisfactory results. The education of the children undergoing a course of treatment is also looked after, and a qualified lady teacher, provided by the Education Committee, attends at the hospital daily for this purpose.

The Gerson Treatment.—This so-called “Diet Cure” consists essentially in the administration of fresh vegetables and fruits and their juices. Butcher meat is used very sparingly and ordinary salt is entirely excluded from the diet, which is supplemented, however, by the use of fresh milk, butter-milk, butter, eggs, oatmeal, brown bread, etc. As special skill is necessary for the preparation of the fruit juices and other articles of the menu, the services of a specially trained cook had to be obtained.

For the purpose of this investigation, fourteen patients (nine females and five males) were selected to undergo a six months’ course of the treatment. At the beginning, the patients found the menu unpalatable for the most part, but they gradually overcame their dislike to certain of the articles. Two of the female patients found the diet so nauseous that it had to be discontinued after thirteen weeks and fifteen weeks respectively. In both cases, unmistakable evidence of retrogression during the period of treatment was observed.

The physical signs in the lungs were investigated weekly, and radiographic examination was made of each case before commencing, during, and on completion of the course. The results of these observations may be briefly summarised as follows :—

LUNG SIGNS.			X-RAY EVIDENCE.			T.B. IN SPUTUM.	
Improved.	<i>In statu quo.</i>	Worse.	Improved.	<i>In statu quo.</i>	Worse.	Before.	After.
4	1	9	4	...	10	14	13

The results obtained were very disappointing and did not produce any evidence which could lead an experienced observer to conclude that the Gerson Diet Cure is of any curative value in the treatment of pulmonary tuberculosis.

Colinton Mains Hospital.—Provision is made at this hospital for the treatment of all forms of tuberculosis—148 beds being reserved for pulmonary cases and 73 for surgical tuberculosis.

Pulmonary Tuberculosis.—The patients selected for admission to the wards set apart for the reception of pulmonary cases are generally in the later stages of the disease. In the majority of the cases there is little hope of any permanent betterment, yet it is remarkable how many patients responding to the open-air conditions, and nourishing food, show considerable improvement after a period of residence.

In view of the class of patients admitted to the hospital, it is not surprising that 25 per cent. of the cases treated during the year proved fatal. On the other hand, however, 251 patients were discharged and in a number of instances their condition was greatly improved.

The following Table shows the number of patients treated during the year :—

	Remained at 1st January.	Admitted.	Discharged.	Died.	Remaining at 31st December.
Men . .	86	236	164	80	78
Women . .	41	135	80	46	50
Children . .	4	13	7	5	5
Totals . .	131	384	251	131	133

In the course of the year 251 patients were discharged and 131 died. Of these 382 cases, 17 were found to be suffering from diseases other than tuberculosis. The age and sex distribution of the remaining 365 patients were as under :—

	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	Over 60.	Total.
Males . .	3	2	5	18	60	46	47	39	15	235
Females . .	3	3	2	27	35	35	16	6	3	130
Totals . .	6	5	7	45	95	81	63	45	18	365

Particulars regarding the presence or absence of tubercle bacilli in the sputa of the discharged patients are given below :—

ON ADMISSION.

	T.B. Present.	T.B. Absent.
Stage I. . .	10	10
„ II. . .	61	51
„ III. . .	196	37
Totals . .	267	98

ON DISCHARGE.

	T.B. Present.	T.B. Absent.
	4	16
	56	56
	191	42
	251	114

The average duration of treatment was 130 days.

Non-Pulmonary Tuberculosis.—During the year 67 cases of non-pulmonary tuberculosis were admitted to the hospital wards, and in 25 or 37·3 per cent. of these the disease was localised in the spine. In 14 or 20·8 per cent. of the cases the hip joint was the part affected, while only 8 or 11·9 per cent. of the patients suffered from abdominal tuberculosis.

The following Table shows the number of patients dealt with during the year :—

Sex.	At 1st January.	Admitted.	Discharged.	Died.	Remaining at 31st December.
Males . .	33	37	27	7	36
Females . .	37	30	28	2	37

Sex and age distribution of patients admitted :—

Sex.	Under 5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	Over 60.	Total.
Males . . .	5	4	4	6	10	3	3	2	...	37
Females . . .	3	6	2	8	5	1	4	1	...	30
Totals . . .	8	10	6	14	15	4	7	3	...	67

The part affected by the disease in the 67 patients admitted to hospital was as under :—

Part Affected.	Males.	Females.	Part Affected.	Males.	Females.
Spine	15	10	Shoulder	1	...
Abdomen	2	6	Leg, Foot	2	1
Glands	4	1	Genito-Urinary	1	1
Hip	5	9	Wrist	1	...
Knee	4	2	Dactylitis	1	...
Rib	1	...	Totals	37	30

The results with regard to the patients discharged or dying are summarised in the following Table :—

Parts affected on Admission.	MALES.	Appa- rently Cured.	Improved.	Not Im- proved.	Died.	FEMALES.	Appa- rently Cured.	Improved.	Not Im- proved.	Died.	Totals.
Abdomen . . .	3	1	...	1	1	7	...	6	1	...	10
Foot . . .	1	...	1	...	...	...	...	...	...	...	1
Glands . . .	3	2	...	...	1	2	...	2	...	...	5
Hip . . .	6	...	4	...	2	5	2	3	...	...	11
Knee . . .	5	...	5	...	...	4	...	4	...	...	9
Spine . . .	11	3	4	2	2	12	1	8	1	2	23
Wrist . . .	1	...	1	...	...	...	...	...	...	...	1
Shoulder . . .	1	...	1	...	...	...	...	...	...	...	1
Elbow . . .	2	...	1	...	1	...	...	...	...	...	2
Dactylitis . . .	1	...	1	...	...	...	...	...	...	...	1
Totals . . .	34	6	18	3	7	30	3	23	2	2	64

The parts affected by the disease in patients who died, together with the ultimate cause of death :—

Part Affected.	Ultimate Cause of Death.
MALES—	
Spine 2	T.B. Meningitis.
Glands 1	T.B. Suprarenals.
Hip 2	Perforated Peptic Ulcer.
	Generalised T.B. and Toxæmia.
Abdomen 1	Pericarditis.
Elbow 1	Generalised T.B.
FEMALES—	
Spine 1	Multiple Abscesses.
Spine 1	Paraplegia and Bed Sores.

The treatment of non-pulmonary tuberculosis by Ultra-Violet Ray therapy is extensively employed at the hospital, open arc lamps for the production of "Artificial Sunlight" being provided in both the male and female wards. The results obtained by this form of treatment have been most encouraging. In various tuberculous conditions, especially where glands or the abdomen are affected, the patients benefit materially.

Polton Farm Colony.—The Colony is situated in the County of Midlothian about eight miles from the City.

The institution, which has accommodation for 18 patients, was originally carried on by the voluntary efforts of the Tuberculosis Trust. The Colony was taken over by the Corporation in 1914 under a scheme promoted to secure the co-ordination of the various services for the prevention and treatment of tuberculosis.

The grounds extend to about 50 acres and there is a model piggery, poultry farm, and market garden. These undertakings provide occupational treatment for the patients.

Both males and females are admitted to the Colony, and during the year 33 patients were transferred from the Royal Victoria Hospital for a period of treatment.

The revenue from the pigs, poultry, eggs, etc., for the year to 15th May 1931 was £1,564, 16s. 4d., while the gross expenditure for the upkeep of the institution was £2,803, 4s. 11d.

TUBERCULOSIS DISPENSARIES.

The work at the two anti-Tuberculosis Dispensaries has followed the usual routine lines and the facilities for the diagnosis and treatment of the disease have been utilised to the full.

The principal centre is at the Royal Victoria Dispensary, Spittal Street, Edinburgh. This centre is equipped with X-ray apparatus and an installation of lamps for Ultra-Violet Ray treatment. The staff attend at the Dispensary for consultation purposes every afternoon from Monday to Friday, and also on Thursday evenings.

The other dispensary is at South Fort Street, Leith, and is open on two afternoons per week for the convenience of citizens resident in the district.

The medical practitioners continue to refer many difficult or doubtful cases to the dispensaries for diagnosis, while the Child Welfare and School Medical Departments take full advantage of the facilities provided, with the result that many delicate children are tided over a critical period.

The following Table shows the number of attendances at each of the dispensaries during the year :—

	New Cases.		Old Cases.	
	Edinburgh.	Leith.	Edinburgh.	Leith.
Men	743	82	3,719	697
Women	659	128	3,796	894
Children	820	197	3,561	591
Totals	<u>2,222</u>	<u>407</u>	<u>11,076</u>	<u>2,182</u>

Home Visitation.—The visitation of tuberculosis patients in their own homes is carried out by the Medical Officers attached to the dispensaries and a staff of trained nurses. During the year 15,581 domiciliary visits were made and the number in each month is detailed below :—

	Insured.	Not Insured.	Total.		Insured.	Not Insured.	Total.
January	707	746	1,453	August	482	486	968
February	684	710	1,394	September	482	524	1,006
March	733	849	1,582	October	737	786	1,523
April	539	658	1,197	November	637	780	1,417
May	588	774	1,362	December	581	714	1,295
June	468	533	1,001				
July	636	747	1,383	Totals	<u>7,274</u>	<u>8,307</u>	<u>15,581</u>

Patients discharged from hospital after treatment for tuberculosis are strongly recommended to attend the dispensary for a further period of supervision. Unfortunately this advice is not always followed. There are still a number of patients who, in spite of repeated domiciliary visits, will only resume attendance at the dispensary when they feel that there is the possibility of a relapse. This tendency is, however, being gradually overcome by educational effort and considerable improvement has been noted in recent years.

Artificial Sunlight Treatment.—One of the outstanding advantages at the Royal Victoria Dispensary is the provision of a clinic for the treatment of patients by the Ultra Violet Ray. The installation consists of four Arc Lamps and one Mercury Vapour Lamp. The clinic is open five days per week and separate sessions are arranged for the reception of children.

A specially trained nurse is in charge of the clinic, and during the year 361 patients have received treatment. The number of attendances for exposures was 15,226.

The cases selected for a course of treatment, which generally extends from one to six months, are of the non-pulmonary type, and suffer mainly from abdominal, glandular, and skin affections.

In addition to the Dispensary cases the School Medical Department take advantage of the clinic for the treatment of children suffering from debility and conditions following pneumonia and other illnesses.

The attendance of the patients referred to the clinic has been very satisfactory, and definite improvement was noted in many cases.

Extra Nourishment.—This form of domiciliary treatment is granted to patients who through stress of circumstances are unable to provide it for themselves. Where the Tuberculosis Officer is satisfied that the applicant will derive benefit from a course of special food, an order is issued by the Department for a daily supply of milk, eggs, and butter.

The cases are reviewed periodically and if an improvement in the condition of the patient has been noted an order to continue the supply is issued. The expenditure for the year in connection with this treatment was £175, 15s. 3d.

Drugs.—All necessary drugs are supplied free of charge to patients attending the respective dispensaries. In addition to this the Department is responsible for the payment of medicines supplied to tuberculosis patients under treatment by their own doctors. In this connection private medical practitioners issued 1,616 prescription forms which were dispensed by chemists on the panel of the Burgh Insurance Committee at a cost of £175, 17s. 8d.

CITY HOSPITAL.

REPORT BY MEDICAL SUPERINTENDENT.

I have the honour to present the Annual Report of the City Hospital for the year 1931. During the year there were 3,278 patients admitted to the Wards, of whom 451 were suffering from tuberculosis. The above total includes cases admitted from districts outwith the City boundaries. The greatest number treated in hospital on any one day was 654. The average daily number under treatment was 471.

Scarlet Fever
and
Diphtheria.

During the latter half of the year the hospital was exceptionally quiet. The number of cases of scarlet fever admitted to the wards was again unusually low and the type of disease mild. The fatality rate for diphtheria, namely, 2·7 per cent. is the lowest yet recorded in the hospital.

Laryngeal
Diphtheria.

A fatality rate of 8·8 per cent. for cases of laryngeal diphtheria is exceptionally low. Whilst this highly satisfactory figure may merely be a reflection of the mild type of diphtheritic infection prevalent during the year yet there is good reason to believe that the new method of treatment by aspiration has saved cases which would otherwise have succumbed to the disease. (*Lancet*, October 31, 1931, p. 956.)

Health of
Staff.

The general health of the staff was satisfactory. As regards infectious diseases one nurse contracted measles, and one scarlet fever in the course of their duties.

Immuniza-
tion against
Diphtheria
and Scarlet
Fever.

The complete freedom of the staff from diphtheria during the year under review is a striking testimony to the efficacy of active immunization against this disease. A scheme of pre-hospital immunization has been initiated. Prophylactic mixture, accompanied by full instructions and an immunization certificate, is issued to each intending probationer nurse at least six months prior to taking up hospital duty. Following completion of the course of toxoid-antitoxin injections the family physician is requested to complete the certificate and forward it to the hospital. Where the basic immunity of the probationer staff against diphtheria is very low, as in this hospital, active immunization prior to commencing nursing duty is the ideal. The preventive measures against scarlet fever were again highly successful, only one mild infection occurring in the nursing staff during the period under review.

Training
of Nurses.

Thirty-four nurses completed their training during the year. Of these twenty-eight went to various hospitals for a general training, five obtained posts as staff nurses, and one went in for massage. Twenty-six nurses passed the State Examination.

Teaching.

Two hundred and sixty-five undergraduates attended clinics at the hospital. These were divided into six sections entailing 72 hours instruction. Two courses were held for candidates for the Diploma in Public Health. These courses were attended by 32 graduates. Three meetings were held during the summer vacation for post-graduate instruction. Including lectures to the nursing staff, 220 hours were devoted to teaching during the course of the year.

Medical Staff.

Dr. W. T. Gardiner again performed invaluable work. Apart from the routine examination of infective conditions of the naso-pharynx, ears, and larynx, he removed tonsils and adenoids in 139 patients and performed 14 mastoidectomies. I cannot speak too highly of the skill and attention which Dr. Gardiner bestows on the patients referred to his care. Mr Frank Jardine has been very helpful in general surgical problems.

I have been fortunate in retaining the services of Dr. A. L. K. Rankin as Senior Assistant to the hospital. He has performed his varied duties, bacteriological, clinical, and administrative in an admirable manner. The Junior Resident Medical Officers have all given of their best and have carried out their clinical duties to my entire satisfaction.

No fewer than 10,314 reports were issued from the hospital laboratory during the year. The great increase in the number of cases of puerperal infection admitted to the hospital during the past four years, owing to the extensive bacteriological examination required in each patient, has thrown a heavy strain on the laboratory personnel. The examination of swabs from the throat, nose, or ear for the presence of streptococcus hæmolyticus, a new departure, necessitated the preparation of almost 500 blood agar plates.

Mr Craig, the laboratory assistant, is to be commended for the careful and conscientious manner in which he has carried out his duties.

The courteous and very helpful co-operation of Professor Mackie and his assistants at the Bacteriological Department of the University was greatly appreciated. We are indebted to the University Laboratory for the performance of virulence tests and certain specialized and highly technical examinations.

It is with pleasure that I acknowledge my indebtedness to the Matron, sisters and nursing staff for their loyal support and assistance in all difficulties. They have one and all given of their best to the patients under their care. The various officials responsible for the kitchen, laundry, and dispensary, have in no small measure contributed to the general efficiency of the hospital. The engineer, joiner, gardener, motor ambulance attendants, and porters have all carried out their duties in a very satisfactory manner.

Nursing and
General Staff.

Following the retirement of Mr Macdonald after 26 years of faithful and unremitting stewardship we have obtained in Mr Stirling a highly efficient successor.

I append the usual reports relating to the various infectious diseases treated in the hospital.

I have the honour to be, Sir,

Your obedient Servant,

W. T. BENSON,

M.D. (Ed.), B.Sc. (St. And.), D.P.H. (Camb.),

D.T.M. & H. (Lond.), F.R.C.P. (Ed.).

Medical Superintendent.

DIPHTHERIA.

Of 1,235 cases admitted to the diphtheria pavilions, 872 were finally diagnosed as suffering from diphtheria. The addition of one case erroneously diagnosed as scarlet fever brings the diphtheria total to 873.

Of the remainder 271 were "carriers," and 92 were found to be suffering from diseases other than diphtheria. The discovery of three cases of glandular fever among the erroneously diagnosed group is worth recording.

Seventeen diphtheria patients were suffering from an intercurrent infection, namely, scarlet fever in 13, chickenpox in 3, and mumps in 1.

There were 24 deaths ascribed to diphtheria. The mortality calculated on actual clinical cases was 2·7 per cent. Excluding laryngeal cases the death-rate was 2·3 per cent.

The mortality of 57 laryngeal cases was 8·8 per cent. The five deaths were due to extensive tracheo-bronchial infection, three occurring within 12 hours of the admission of the patient to hospital. Twenty-seven patients were treated by aspiration only; three died. Eleven were intubated following aspiration, all recovered. Three cases, considered unsuitable for aspiration, were tracheotomied, two died. The operative death-rate, including treatment by suction, was 8·0 per cent. The fatality rate for cases subjected to intubation or tracheotomy was 14·0 per cent.

The paralysis rate, excluding cardiac involvement, was 4·5 per cent.

Serum rashes were noted in 90 cases, or 10·3 per cent. of the diphtheria patients treated.

Of the 24 deaths from diphtheria, 7 occurred within 48 hours of admission of the patient to hospital. Sixteen deaths (66·6 per cent.) occurred in patients who first came under treatment on or after the fourth day of disease.

The therapeutic effect following administration of glucose and insulin to cases of toxic diphtheria has been closely investigated during the year. No conclusive results have so far been obtained.

Table showing age and sex of diphtheria patients:—

Age-period in years	0-1 yrs.	1+ yrs.	2+ yrs.	3+ yrs.	4+ yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-29 yrs.	30-39 yrs.	40-49 yrs.	50+ yrs.	Totals.
Recovered { Males .	7	16	21	35	39	158	55	13	14	5	1	2	366
Recovered { Females	2	14	37	34	33	170	72	33	47	30	5	6	483
Died { Males .	...	1	1	...	2	5	1	...	...	...	...	...	10
Died { Females	...	1	1	1	1	9	1	...	...	...	...	...	14
Totals .	9	32	60	70	75	342	129	46	61	35	6	8	873

Hospital death-rate, 2·70 per cent.

SCARLET FEVER.

During the year there were 622 cases admitted to the hospital notified as suffering from scarlet fever. The diagnosis was confirmed in 559 cases. The addition of 5 cases, 2 erroneously diagnosed as suffering from measles and 3 from diphtheria, brings the scarlet fever total to 564. Various forms of tonsillitis or erythema were present in 41 of the 63 misdiagnosed cases. It was surprising to find a case of pityriasis versicolor mistaken for scarlet fever.

There were 4 deaths. The case mortality was 0·71 per cent. One toxic case died. A second death resulted from nephritis and uræmia. The two remaining deaths were due to concurrent infections, namely, broncho-pneumonia in one patient and empyema in the other.

There were three septic cases, all of which recovered.

The following are the principal complications which were noted:—

Rhinitis .	.	.	.	.	90 cases or	15·9 per cent.
Late adenitis .	.	.	.	.	52	„ 9·2 „
Otorrhœa .	.	.	.	.	29	„ 5·1 „
Arthritis .	.	.	.	.	20	„ 3·5 „
Nephritis .	.	.	.	.	10	„ 1·7 „
Endocarditis .	.	.	.	.	1	„ 0·17 „

Table showing age and sex of scarlet fever patients:—

Age-period in years	0-1 yr.	1+ yrs.	2+ yrs.	3+ yrs.	4+ yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-29 yrs.	30-39 yrs.	40-49 yrs.	50-59 yrs.	60+ yrs.	Totals.
Recovered { Males .	2	10	18	29	22	102	26	14	26	5	3	...	...	257
Recovered { Females .	...	7	11	25	28	123	39	19	35	11	5	...	...	303
Died { Males .	...	1	...	1	...	1	...	...	...	...	...	...	...	3
Died { Females .	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Totals .	2	18	29	55	50	227	65	33	61	16	8	...	...	564

Hospital death-rate, 0·71 per cent.

There were 14 alleged "infecting cases" or 2·5 per cent. of the total number of scarlet fever convalescents discharged. Of the 14 alleged "infecting cases" 10 were "clean cases" whilst in hospital. The 14 "infecting cases" were responsible for 16 "return cases." The return case rate was 2·9 per cent.

Antitoxic serum was administered to 18·3 per cent. of the scarlatinal patients.

ENTERIC FEVER.

The diagnosis was confirmed in 14 out of 24 cases admitted to the wards notified as suffering from enteric fever. One case of typhoid fever was readmitted. The following diseases were noted in the group of 9 cases, either wrongly diagnosed as enteric fever, or sent in for observation :—appendicitis (2 cases), influenza (2 cases), pneumonia, pyelitis, Flexner dysentery, puerperal infection and bronchitis.

The infecting organism was the bacillus typhosus in 7 patients, and the bacillus paratyphosus B. in 7 cases.

The single death occurred from a paratyphoid B. infection.

Table showing age and sex of enteric fever patients :—

Age-period in years . . .	0-4 yrs.	5-9 yrs.	10-14 yrs.	15-19 yrs.	20-29 yrs.	30-39 yrs.	40-49 yrs.	50-59 yrs.	60+ yrs.	Totals.
Recovered { Males . . .	1	...	1	...	2	2	2	...	...	8
Recovered { Females . . .	...	...	1	...	2	...	1	1	...	5
Died { Males . . .	...	...	...	...	...	...	...	...	...	...
Died { Females . . .	...	...	...	...	...	...	...	1	...	1
Totals . . .	1	...	2	...	4	2	3	2	...	14

Hospital death-rate, 7·1 per cent.

ERYSIPELAS.

There were 160 cases admitted to the wards notified as suffering from erysipelas. The diagnosis was confirmed in 127 patients.

The corrected diagnosis in 33 cases was as follows :—cellulitis (14), dermatitis (9), abscess (3), cavernous sinus thrombosis, phlebitis, septic arthritis, periostitis of cranium and erythema nodosum.

The case mortality was 3·93 per cent.

The inflammation primarily affected the face in 102 of the 127 cases. Eleven patients (6·9 per cent.) had suffered from a previous attack. Five patients (3·9 per cent.) suffered from one or more relapses while still under treatment in hospital.

Table showing age and sex of erysipelas patients :—

Age-period in years . . .	0-4 yrs.	5-9 yrs.	10-19 yrs.	20-29 yrs.	30-39 yrs.	40-49 yrs.	50-59 yrs.	60-69 yrs.	70+ yrs.	Totals.
Recovered { Males . . .	5	...	4	4	8	6	6	14	2	49
Recovered { Females . . .	8	1	7	13	12	8	16	6	2	73
Died { Males . . .	2	...	...	...	...	...	...	1	1	4
Died { Females . . .	1	...	...	...	...	...	...	...	...	1
Totals . . .	16	1	11	17	20	14	22	21	5	127

Hospital death-rate, 3·9 per cent.

CEREBRO-SPINAL MENINGITIS.

Fifty-seven suspected cases of cerebro-spinal fever were admitted to hospital of which 40 proved to be meningococcal infections. In addition one case of meningococcal meningitis was admitted to hospital erroneously diagnosed as diphtheria.

Three patients were suffering from pneumococcal meningitis; two from tubercular meningitis; two from acute aseptic meningitis (For report see *Brit. Med. Journ.*, Jan. 23, 1932, p. 138), and one each from pyelitis, primary pneumonia, naso-pharyngeal catarrh, meningismus, cellulitis, epilepsy, pleurisy, influenzal meningitis, Flexner dysentery, and influenza.

Twenty-nine of the meningococcal cases died.

Excluding infants the death-rate was 48·8 per cent.

Table showing age and sex of patients suffering from cerebro-spinal meningitis:—

Age-period in years		Under 1 year.	1-4 years.	5-9 years.	10-14 years.	15-19 years.	20-29 years.	30-39 years.	40 + years.	Totals.
Recovered	{ Males	...	1	...	...	2	2	...	...	5
	{ Females	1	2	2	1	...	1	...	...	7
Died	{ Males	7	4	1	...	1	2	1	...	16
	{ Females	2	6	...	...	2	...	3	...	13
Totals		10	13	3	1	5	5	4	...	41

Hospital death-rate, 70·7 per cent.

Polyvalent anti-meningococcic serum prepared by five well-known commercial firms was freely administered. The results were very disappointing.

PUERPERAL INFECTION.

Of 152 cases notified as puerperal fever or puerperal pyrexia the diagnosis of puerperal infection was confirmed in 129. Twenty-five of these cases were admitted from districts outwith the City boundaries. The addition of 1 case erroneously diagnosed as enteric fever brings the puerperal infection total to 130.

Fifteen of the 130 cases died, a mortality rate of 11·5 per cent.

Sixty-nine patients were primiparæ, and 61 multiparæ. There were 6 deaths (8·7 per cent.) among the primiparæ and 9 (14·7 per cent.) among the multiparæ.

The corrected diagnosis in 20 patients was as follows:—pyelitis (10), mastitis (2), pulmonary tuberculosis (2), bronchitis (2), infective endocarditis, constipation, primary pneumonia, and secondary anæmia. There were four deaths in this group.

Pyelitis or bacilluria was present in 36 patients (27·7 per cent.).

Table showing age of puerperal infection patients:—

Age—Period in Years.	15-19 years.	20-29 years.	30-39 years.	40 + years.	Totals.
Recovered	9	70	27	9	115
Died	1	8	6	...	15
Totals	10	78	33	9	130

Hospital death-rate, 11·5 per cent.

Forty-four per cent. of the cases were admitted on or before the third day of illness. This compares favourably with 36 per cent. in the previous year.

The average day of illness on which the patient first received treatment in hospital was the fifth.

One or more blood cultures were examined in every case. *Streptococcus hæmolyticus* was isolated from the blood in twenty-five patients (19 per cent.), and from the uterus in 73 cases (55 per cent.).

PNEUMONIA.

There were 62 patients admitted to the wards notified as suffering from either primary lobar pneumonia or influenzal broncho-pneumonia. The presence of pneumonia was confirmed in 43 cases. The addition of 13 cases—6 erroneously diagnosed as suffering from diphtheria, 2 from scarlet fever, 1 from enteric fever, 1 from puerperal infection, 1 from cerebro-spinal meningitis, 1 from measles, and 1 from whooping-cough—brings the total number of cases of pneumonia to 56.

Twenty-four cases were finally diagnosed as primary or lobar pneumonia, 21 as influenzal broncho-pneumonia and 11 as broncho-pneumonia.

Six deaths occurred from lobar pneumonia, and 14 from broncho-pneumonia.

The corrected diagnosis in 19 patients was as follows :—bronchitis (9), pulmonary tuberculosis (3), influenza (2), pleurisy, bronchiectasis, whooping-cough, otitis media, and acidosis in 1 case each.

Table showing age and sex of pneumonia patients :—

Age-period in years	0-4 years.	5-9 years.	10-14 years.	15-19 years.	20-29 years.	30-39 years.	40-49 years.	50+ yrs.	Totals.
Recovered { Males	2	2	2	4	6	3	2	2	23
Recovered { Females	3	1	...	...	3	3	...	3	13
Died { Males	1	...	...	...	...	...	4	4	9
Died { Females	5	...	...	...	1	1	2	2	11
Totals	11	3	2	4	10	7	8	11	56

Hospital death-rate, 35·7 per cent.

MEASLES.

There were 139 cases admitted to the wards notified as suffering from measles. The diagnosis was confirmed in 128 patients. In addition there were 7 cases of measles misdiagnosed as scarlet fever, and 1 case notified as rubella. This makes a total of 136 cases suffering from measles. The corrected diagnosis in 11 patients was as follows :—erythema (5), scarlet fever (2), rubella (1), tonsillitis (1), catarrhal jaundice (1), and broncho-pneumonia (1).

There were four deaths, due to complications ; broncho-pneumonia in three cases and diphtheria in one patient.

The following complications were noted :—

Broncho-pneumonia	14 cases or 10·3 per cent.
Otitis	12 „ 8·8 „
Laryngitis	4 „ 2·9 „
Adenitis	4 „ 2·9 „

Table showing age and sex of measles patients :—

Age-period in years	0-1 yrs.	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-30 yrs.	30-40 yrs.	Over 40 yrs.	Totals.
Recovered { Males	1	4	8	4	8	20	5	4	9	...	1	64
Recovered { Females	5	5	12	8	8	7	4	8	9	2	...	68
Died { Males	1	...	...	...	1	1	...	...	...	...	...	3
Died { Females	...	1	...	...	...	...	...	...	...	...	...	1
Totals	7	10	20	12	17	28	9	12	18	2	1	136

Hospital death-rate, 2.94 per cent.

WHOOPING-COUGH.

The number of patients admitted to the wards notified as whooping-cough was 90. The diagnosis was confirmed in 84 cases. One child alleged to be suffering from lobar pneumonia was found to be a case of whooping-cough, raising the total to 85 cases. Bronchitis, pneumonia, or measles was present in one or other of the six erroneously diagnosed patients. Twenty-five cases were complicated with broncho-pneumonia on admission to hospital (28.3 per cent.).

There were 11 deaths due to broncho-pneumonia or convulsions.

Table showing age and sex of whooping-cough patients :—

Age-period in years	0-1 year.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	5-10 years.	Over 10 yrs.	Totals.
Recovered { Males	15	9	4	4	3	8	...	43
Recovered { Females	6	9	8	1	...	4	3	31
Died { Males	4	...	...	...	1	...	...	5
Died { Females	1	4	1	...	...	...	...	6
Totals	26	22	13	5	4	12	3	85

Hospital death-rate, 12.94 per cent.

CHICKENPOX.

The diagnosis was confirmed in 110 out of 116 patients admitted to the wards notified as suffering from chickenpox. The addition of 1 case erroneously diagnosed as suffering from scarlet fever brings the chickenpox total to 111.

The corrected diagnosis in five patients was scabies, molluscum contagiosum, erythema papulosa, impetigo contagiosa, and cervical adenitis.

No deaths occurred.

Table showing age and sex of chickenpox patients :—

Age-period in years	0-1 years	1+ years	2+ years	3+ years	4+ years	5-9 years	10-14 years	15-19 years	20-29 years	30-39 years	40+ years	Totals
Recovered { Males	3	2	6	6	9	26	10	2	2	...	...	66
Recovered { Females	...	5	4	3	3	17	8	3	2	...	...	45
Died { Males	...	...	...	...	...	...	...	...	...	...	...	...
Died { Females	...	...	...	...	...	...	...	...	...	...	...	...
Totals	3	7	10	9	12	43	18	5	4	...	...	111

EPIDEMIC PAROTITIS.

Forty-four cases were admitted to hospital alleged to be suffering from mumps. The diagnosis was confirmed in 35 patients.

Of the 9 misdiagnosed cases, 4 were suffering from septic parotitis, and one each from Ludwigs angina, cellulitis of neck, abscess of cheek, otitis media and adenitis, and cervical adenitis.

No deaths occurred.

Table showing age and sex of epidemic parotitis patients :—

Age-period in years	0-1 years	1+ years	2+ years	3+ years	4+ years	5-9 years	10-14 years	15-19 years	20-29 years	30-39 years	40+ years	Totals
Recovered { Males	1	2	4	5	5	2	1	2	...	...	22
Recovered { Females	1	2	...	3	...	2	4	...	1	13
Died { Males
Died { Females
Totals	1	3	6	5	8	2	3	6	...	1	35

RUBELLA.

The diagnosis was confirmed in 86 out of 90 cases notified as rubella. In addition there were 5 cases actually suffering from rubella which were notified as scarlet fever (4) or measles (1). This makes a total of 91 cases of rubella.

All the patients recovered.

Table showing age and sex of rubella patients :—

Age-period in years	0-1 years	1-2 years	2-3 years	3-4 years	4-5 years	5-10 years	10-15 years	15-20 years	20-30 years	Totals
Recovered { Males	21	24	...	1	46
Recovered { Females	26	17	1	1	45
Died { Males
Died { Females
Totals	47	41	1	2	91

OTHER DISEASES.

UNDULANT FEVER.—A young medical man admitted to the hospital suffering from undulant fever ultimately made an excellent recovery. *Brucella abortus* was isolated from his blood. The infection had apparently been acquired in a bacteriological laboratory.

GLANDULAR FEVER.—Three cases admitted to the hospital suspected to be suffering from diphtheria gave the typical clinical and blood findings associated with the condition called glandular fever or infective mononucleosis. One of the cases closely simulated enteric fever. All three patients recovered.

It is interesting to note that a case of glandular fever admitted to the City Hospital in the year 1928 was notified, on clinical grounds, as suffering from paratyphoid B. infection.

LABORATORY ANNUAL REPORT.

Nature of Specimen.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Throat Swabs for B. diphtheriæ . . .	664	554	1013	789	570	411	513	485	543	490	412	370	6814
Sputum for B. tuberculosis . . .	63	41	36	147	97	116	105	284	132	135	115	107	1378
Urines . . .	39	22	36	20	27	51	48	20	38	22	38	26	387
Stools . . .	6	3	3	7	3	15	13	3	5	3	8	10	79
Blood Cultures . . .	17	18	17	17	14	19	17	11	22	19	24	18	213
Uterine Cultures . . .	11	10	12	6	12	6	16	10	15	9	16	11	134
Throat Swabs for S. hæmolyticus . . .	8	34	54	44	81	45	29	9	50	54	34	44	486
Cerebro-spinal fluids . . .	54	64	61	67	57	74	109	39	18	19	12	38	612
Widals . . .	2	9	...	1	...	3	4	1	1	1	3	9	34
Others . . .	23	20	22	14	8	12	16	9	8	10	14	21	177
Totals . . .	887	775	1254	1112	869	752	870	871	832	762	676	654	10,314

BACTERIOLOGICAL SERVICES.

Carried out by the Bacteriology Department of the University, from January to December 1931 :—

ROUTINE BACTERIOLOGICAL EXAMINATIONS.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Throat, nasal and aural swabs for <i>Bacillus diphtheriæ</i> :—													
Total	1007	782	667	418	514	381	464	392	615	472	486	414	6612
Positive	141	110	109	71	79	41	62	55	80	49	51	70	918
Negative	866	672	558	347	435	340	402	337	535	423	435	344	5694
Cultures for <i>Bacillus diphtheriæ</i> :—													
Total	17	26	31	51	29	35	70	52	16	25	10	9	371
Positive	4	12	18	8	11	22	18	19	10	6	2	0	130
Negative	13	14	13	43	18	13	52	33	6	19	8	9	241
Cultures for <i>Bacillus diphtheriæ</i> Virulence Test :—													
Total	15	20	27	23	19	13	13	20	11	19	12	9	201
Positive	3	5	17	15	12	3	4	15	2	7	5	5	93
Negative	12	15	10	8	7	10	9	5	9	12	7	4	108
Throat swabs for organisms of Vincent's Angina :—													
Total	2	6	2	1	6	1	5	...	3	2	6	3	37
Positive	1	1	0	0	1	0	0	...	2	1	2	1	9
Negative	1	5	2	1	5	1	5	...	1	1	4	2	28
Throat swabs for <i>Hæmolytic Streptococci</i> :—													
Total	4	7	1	1	...	...	...	...	...	...	...	...	13
Positive	2	0	1	1	...	...	...	...	...	...	...	...	4
Negative	2	7	0	0	...	...	...	...	...	...	...	...	9
Vaginal swabs for <i>Gonococcus</i> :—													
Total . . . . .	...	...	...	...	1	...	1	...	...	...	4	1	7
Positive . . . . .	...	...	...	...	0	...	0	...	...	...	1	1	2
Negative . . . . .	...	...	...	...	1	...	1	...	...	...	3	0	5
Sputum for <i>Bacillus tuberculosis</i> :—													
Total	155	147	152	140	116	151	89	109	134	159	177	172	1701
Positive	22	26	16	26	15	28	8	23	20	22	25	24	255
Negative	133	121	136	114	101	123	81	86	114	137	152	148	1446
Urine for <i>Bacillus tuberculosis</i> :—													
Total	1	...	...	...	...	2	1	1	...	...	1	1	7
Positive	0	...	...	...	...	1	0	0	...	...	0	0	1
Negative	1	...	...	...	...	1	1	1	...	...	1	1	6
Blood for agglutination tests (including Widal reaction) :—													
Total	2	5	2	1	4	4	1	3	1	3	1	2	29
Positive	1	2	0	1	1	1	0	3	0	3	0	0	12*
Negative	1	3	2	0	3	3	1	0	1	0	1	2	17
Blood for Flocculation Test for Syphilis :—													
Total . . . . .	...	...	...	...	...	...	1	1	...	1	1	...	4
Positive . . . . .	...	...	...	...	...	...	0	0	...	1	0	...	1
Negative . . . . .	...	...	...	...	...	...	1	1	...	0	1	...	3
Fæces and Urine for organisms of Enteric and Dysentery Groups :—													
Total . . . . .	...	3	4	3	1	...	1	...	...	6	2	12	32
Positive . . . . .	...	0	0	1	0	...	0	...	...	0	0	1	2†
Negative . . . . .	...	3	4	2	1	...	1	...	...	6	2	11	30
Rats examined for Plague Infection :—‡													
Total	10	...	14	4	10	...	...	8	10	...	...	...	56
Positive	0	...	0	0	0	...	...	0	0	...	...	...	0
Negative	10	...	14	4	10	...	...	8	10	...	...	...	56

* Classified as follows : *B. typhosus*, 2 ; *B. paratyphosus* B, 3 ; *B. dysenteriæ* (Flexner-Y), 2 ; *B. abortus*, 5.

† „ „ *B. dysenteriæ* (Flexner-Y), 1 ; *B. dysenteriæ* (atypical), 1.

‡ These were carcases of rats caught in docks or on board ships arriving from foreign ports and were examined as a precautionary measure.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Brought forward 9,070		
	20	5	35	24	18	21	21	15	9	Oct. 29	Nov. 9	Dec. 31
Classified as follows:—												
NATURE OF SPECIMEN.	EXAMINATION REQUESTED.									TOTAL.		
Throat, nasal and ear swabs	General Bacteriological Examination									50		
Sputum	General Bacteriological Examination									9		
Sputum	Type of Pneumococcus									3		
Croupous Sputum	For Bacillus diphtheriæ									1		
Blood	For Malaria parasites									2		
Blood Culture	For Bacillus abortus									2 (pos.)		
Blood Culture	For Bacillus typhosus and Bacillus paratyphosus B.									1		
Urine	General Bacteriological Examination									9		
Urine	Microscopical Examination									2		
Urine	For Leptospira icterohæmorrhagiæ									2		
Urine	For Bacillus coli									1 (pos.)		
Fæces	General Bacteriological Examination									10		
Fæces	For Bacillus tuberculosis, enteric and dysentery groups									2		
Pus	General Bacteriological Examination									9		
Pus	Type of Pneumococcus									2		
Pus	For Bacillus tuberculosis									1		
Ascitic Fluid	General Bacteriological Examination									1		
Cerebro-spinal Fluid	General Bacteriological Examination									1		
Cerebro-spinal Fluid	For Meningococcus									2 (1 pos.)		
Cerebro-spinal Fluid	Type of Pneumococcus									1		
Cerebro-spinal Fluid	For Bacillus tuberculosis									2		
Pleural Fluid	For Bacillus tuberculosis									2		
Abdominal Fluid	Cytological and Bacteriological Examination									3		
Fluid from Pleural Cavity	Cytological and Bacteriological Examination									1		
Heart Blood (Post-mortem)	General Bacteriological Examination									1		
Culture	Type of Pneumococcus									3		
Culture	For Meningococcus									1		
Culture	General Bacteriological Examination									1		
Fragment of Bone and Swabs	General Bacteriological Examination									1		
Post-mortem specimen	For Salmonella Group									1		
Swabs from Cervix Uteri	For Gonococcus									4 (3 pos.)		
Urethral and Vaginal Smears	General Bacteriological Examination									1		
Vaginal culture	Bacillus diphtheriæ Virulence Test									1 (pos.)		
Vaginal Discharge	For Bacillus diphtheriæ and Gonococcus									1		
Swab of Vaginal Discharge	For Gonococcus and Pneumococcus									1		
Human Milk	General Bacteriological Examination									1		
Effusion from Kneec	General Bacteriological Examination									1		
Water	Bacteriological Examination									78		
Water from Swimming Baths	Bacteriological Examination									11		
Milk	General Bacteriological Examination									2		
Milk	Bacillus coli content									3		
Foodstuffs	For Organisms of Food Poisoning Group									2		
	Autogenous vaccines prepared									4		
										—		
										237		
										Total . 9,307		

SPECIAL INVESTIGATIONS.

INVESTIGATION INTO THE PREVALENCE OF THE TUBERCLE BACILLUS IN MARKET MILK.

This investigation which was begun in October 1930 has been continued during the year 1931. The scope of the inquiry, the technique adopted and the results obtained during 1930 will be found recorded in the report of the Medical Officer of Health for that year.

Six hundred samples were examined during the year. The results obtained are given below.

Brought forward (tests incomplete at end of 1930):—

Farm Milk	Positive	3	26
	Negative	22	
	Inconclusive*	1	
Ordinary Retailed Milk	Positive	6	29
	Negative	22	
	Inconclusive*	1	
Pasteurised Milk	Positive	2	44
	Negative	41	
	Inconclusive*	1	
Total		99	

* Owing to death of inoculated animals from intercurrent infection.

Number examined (tests complete) at 31st December 1931 :—

Farm Milk	Positive	16	135
	Negative	116	
	Inconclusive*	3	
Ordinary Retailed Milk	Positive	16	141
	Negative	121	
	Inconclusive*	4	
Pasteurised Milk	Positive	6	225
	Negative	211	
	Inconclusive*	8	
Total		501	

* Owing to death of inoculated animals from intercurrent infection.

Remaining under examination (tests incomplete) at 31st December 1931 :—

Farm Milk	17
Ordinary Retailed Milk	18
Pasteurised Milk	34
Total	69

Analysis of the figures in the case of those samples which were tested and a conclusive result obtained gives the following results :—

Type of Milk.	Number of Samples tested.	Number Positive.	Percentage Positive.
Farm milk	157	19	12·8
Ordinary retailed milk	155	22	14·2
Pasteurised milk	260	8	3·8

The majority of the pasteurised milk samples tested had been treated by the approved “holder” method. A few samples, however, had been treated by the “flash” method which is not approved. A more correct estimate of the results obtained by pasteurisation can be formed if these two classes are considered separately. The results are then as follows :—

Type of Pasteurisation.	Number of Samples tested.	Number Positive.	Percentage Positive.
“Holder”	245	3	1·2
“Flash”	15	5	33·3

The three positive samples of milk which had been treated by the “holder” method all came from the one pasteurisation plant. From this plant 52 samples were examined. In none of the remaining 193 samples of milk treated by the “holder” method were live tubercle bacilli found.

The investigation showed that a considerable proportion of the ordinary non-pasteurised milk as sold in Edinburgh contained live tubercle bacilli.

The proportion of such samples found to contain the organism was 14 per cent. As each sample was approximately half a pint in amount, this is equivalent to stating that one out of every seven glasses of ordinary unpasteurised milk drunk was likely to contain live tubercle bacilli.

The examination of pasteurised milk samples showed that an efficiently designed and operated pasteurising plant can be relied on to kill all tubercle bacilli. One hundred and ninety-three samples from four different plants were proved to contain no live tubercle bacilli. The fact that out of 52 samples from another plant 3 contained live tubercle bacilli would seem to indicate inefficiency in the plant or in its operation.

Only a few samples of milk treated by the "flash" method of pasteurisation were examined. Of these samples 33 per cent. were found to contain live tubercle bacilli. The process is thus seen to be completely ineffective, and indeed an added danger. It does not merely fail to kill the bacilli but as milk from various sources is bulked in large quantities for treatment, one portion of infected milk may contaminate the whole. In this lies the explanation of the high percentage of positive results obtained from such milk. (*C. P. Beattie*).

INVESTIGATION INTO THE PREVALENCE OF BACILLUS ABORTUS IN MILK AND THE OCCURRENCE OF HUMAN CASES OF UNDULANT FEVER DUE TO THIS ORGANISM.

In the report of the Medical Officer of Health for the year 1930 an account was given of undulant fever in man due to the *Bacillus abortus*, and two cases which had occurred in the City were recorded.

The disease may be acquired through handling infected animals or infected meat. In Edinburgh the number of persons exposed to this risk must be relatively small.

The disease may also be acquired through drinking milk from infected cows, for it is known that once a cow has been infected the casual organism tends to localise in the udder where it may persist for long periods. In a city this must be the more common source of infection.

It was thought desirable to obtain information as to the proportion of milk samples which contained *B. abortus*. The organism produces lesions in guinea-pigs and can be cultivated from these lesions. Advantage was therefore taken of the biological investigation being carried out as to the prevalence of the tubercle bacillus in milk (*vide supra*). Certain of the guinea-pigs inoculated with milk for the purpose of this investigation were examined also for evidence of infection with *B. abortus*. Cultures were made from the spleen of the animals on suitable media and incubated in a jar from which 10 per cent. of air had been removed and replaced by carbon dioxide gas. This condition has been found to be necessary for the growth of the bovine type of *B. abortus*.

The number of milk samples examined and the results obtained were as follows :—

Type of Milk.	Number of Samples examined.	Number Positive.	Percentage Positive.
Farm milk	66	12	18
Retailed milk	66	24	36

No attempt was made to cultivate the organism from guinea-pigs inoculated with pasteurised milk as it is known that efficient pasteurisation readily kills it. Sera from 60 guinea-pigs which had been inoculated with pasteurised milk were, however, examined for the presence of agglutinins for *B. abortus*. The results were all negative.

A few cases have been reported from the U.S.A. of cattle infected with the type of *B. abortus* which infects pigs. This "porcine" type is stated to be more virulent

towards man than is the "bovine" type. An investigation was therefore made as to the type of bacillus present in Edinburgh milk. The method adopted was that described by Huddleson in which the organisms are differentiated by the power possessed by various dyes of inhibiting their growth. Twenty-one of the strains of *B. abortus* isolated from inoculated guinea-pigs were examined and all were found to be of bovine type.

When such a large proportion of retailed milk was found to contain *B. abortus* the occurrence of human infection seemed likely. One of the features of the disease in man is a continued fever. In this respect the disease resembles enteric fever. Samples of blood sent to this laboratory for the Widal reaction were therefore examined in addition for the presence of agglutinins for *B. abortus*.

Sixteen samples were examined during the year and of these two proved positive. In one case the patient's serum agglutinated *B. abortus* in dilutions up to 1 in 480 and in the other in dilutions up to 1 in 960. The clinical history in both cases corresponded to that of undulant fever. The illness in both cases was of long duration and in both cases was at first suspected to be enteric fever.

In addition a medical man working in the laboratory contracted the disease. He may possibly have acquired it in the course of his work but this seemed unlikely as he had not worked with cultures of *B. abortus* for some considerable time prior to the onset of his illness. In his case the fever was of a severe form and was followed during convalescence by arthritis. His serum agglutinated *B. abortus* in dilutions up to 1 in 1,600 and the organism was cultivated from his blood. On examination it proved to be of porcine type.

Thus three cases of undulant fever due to the *B. abortus* are known to have occurred in the City during the year 1931. Two of these cases were discovered by examining blood samples sent in the ordinary routine for the Widal reaction.

It has been said that undulant fever often resembles enteric fever. Such cases are likely to be discovered by laboratory tests, but the symptoms of the disease are by no means constant. A mild form may resemble "influenza." Two known cases were at first diagnosed as "influenza" and when the temperature did not settle were thought to be paratyphoid fever. Other cases have been diagnosed as tuberculosis. It is therefore probable that the three cases recorded do not represent the total incidence of undulant fever during the year.

Thirty-six per cent. of samples of unpasteurised retailed milk sold in the City have been found to contain *B. abortus* yet only three cases of human infection are definitely known to have occurred, though this is probably an understatement.

No satisfactory explanation has yet been given of the accessory factors necessary for the production of the disease in man. Before a proper understanding of undulant fever is arrived at these factors must be discovered.

At present there is evidence that the disease is spread by milk. While the bacillus is killed by efficient pasteurisation, it is present in a large proportion of unpasteurised "retailed" milk (36 per cent. in Edinburgh). Though the chances of infection are therefore great for reasons not yet understood only a small proportion of those at risk contract the disease. (*C. P. Beattie*).

REFERENCE :—"Undulant Fever produced by *Brucella abortus*," *C. P. Beattie, Lancet*, 1932, i, page 1002.

THE DETECTION OF EARLY TUBERCULOSIS OF THE KIDNEY.

Certain clinicians and pathologists have recently given attention to the presence of tubercle bacilli in the urine of tuberculous patients and to the significance of small tuberculous lesions in the kidneys and their conclusions are important with regard to

the knowledge of the development of gross renal tuberculosis. For instance, Harris (1) reported that in patients suffering from tuberculosis of bones, tubercle bacilli could be demonstrated by means of guinea-pig inoculation in the urine of 16 out of 43 adults (37 per cent.) and of 9 out of 67 juveniles (13·8 per cent.). Also, the urine of 4 out of 49 juveniles (8·8 per cent.) suffering from tuberculosis without bone or joint involvement contained tubercle bacilli. In the case of many of the "urine-positive" bone infections there were no clinical signs or symptoms of renal tuberculosis. From post-mortem and other evidence Harris believed that the presence of tubercle bacilli in the kidney urine is due to tuberculous lesions in the kidney and not to the excretion of bacilli from the blood-stream by healthy kidney tissue. Medlar (2) had previously reported that by careful naked eye and microscopical examination he found tuberculous lesions in the renal tissue of 22 out of 30 persons who had died of extensive pulmonary tuberculosis, that bilateral infection was present in every case in which both kidneys were examined and tuberculous lesions were present, and in 14 cases definite evidence of healing by fibrosis was found along with unhealed tuberculous lesions. Two points of practical importance which arise from this work are that greater emphasis than formerly may be placed on the ability of renal tissue to recover from tuberculous infection and that when one kidney shows extensive involvement the presence of tuberculous infection of some degree must be almost presumed to be present in the other.

The matter has been the subject of an investigation carried out during the year in the Departments of Surgery and of Bacteriology, Edinburgh University.* Many of the cases examined were under the charge of Dr. Elder, Tuberculosis Officer, City of Edinburgh, who kindly arranged for them to be available. The patients were cases of pulmonary tuberculosis with no symptoms of genito-urinary infection and they were clinically examined at the Royal Victoria Dispensary by Mr Band, F.R.C.S.E., with the aid of cystoscopic and pyelographic methods. In addition, urine was drawn from the bladder and, by ureteral catheter, from each ureter. These specimens were examined at the Bacteriology Department, Edinburgh University, microscopically and by guinea-pig inoculation to detect tubercle bacilli. To date, 19 patients have been examined in this way; no clinical evidence of infection of the genito-urinary tract was found in any case but in one case tubercle bacilli were detected by animal inoculation in the urine from the bladder and the right ureter and in another case from the right ureter alone. So that in these cases there is strong presumptive evidence that tuberculous infection of at least one kidney has occurred. It may be noted also that in Harris's work tubercle bacilli were sought for on more than one occasion in most cases and it was found that in many their presence was intermittent, so that one examination of each patient probably fails to detect the bacilli in some cases where it is not constantly present. (*J. M. Alston*).

REFERENCES :—

- (1) Harris, R. I. *Brit. J. Surg.*, 1928, 16, 464.
- (2) Medlar, E. M. *Amer. J. Path.*, 1926, 2, 402.

* With the assistance of a grant from the Medical Research Council.

THE BIOLOGICAL CHARACTERS OF "B.C.G."— THE ATTENUATED STRAIN OF TUBERCLE BACILLUS ADVOCATED FOR IMMUNIZATION AGAINST TUBERCULOSIS.

Within recent years the immunization of infants against tuberculosis by means of the attenuated bovine tubercle bacillus of Calmette and Guérin (B.C.G.) has been introduced in European countries and elsewhere abroad. While this method of prophylaxis has not been adopted in this country the fact that thousands of infants and also, recently, many adults have received injections of the "vaccine" makes the outcome of such immunization a matter of general interest.

B.C.G. consists of a living bovine tubercle bacillus, attenuated as a result of periodic subcultivation for more than twenty-five years on a special glycerine-bile-potato medium.

The sponsors of this method of immunization believe the organism is harmless and that when administered by the mouth within the first ten days of life, or subcutaneously, the presence of the attenuated form creates an immunity against a subsequent infection by virulent tubercle bacilli.

Although it has frequently been stated that the vaccine is harmless when injected into experimental animals, cases of generalized tuberculosis have resulted from time to time, but usually, in such instances there has been some deviation from the technique stipulated by Calmette for the preparation of the vaccine.

It has been suggested that as a result of prolonged subcultivation under conditions differing greatly from those of the usual habitat of the tubercle bacillus, the organism has undergone dissociation to an avirulent form characterized by a "rough" (R) colony. It is also stated that growth of this type in anti-R serum *in vitro* causes a reversion to the virulent form which exhibits a "smooth" (S) colony. Since theoretically at least such a change from R—S may also occur *in vivo* after injection with the avirulent R type, the absolute safety of immunization with living avirulent organisms must remain open to question.

During the past eighteen months a study has been made of the various colony types arising from artificial cultivation of B.C.G. The stability of the forms has been investigated and an attempt has been made to determine whether different degrees of virulence are associated with certain colony types.

The results showed that many colonies varying in the complexity of their structure and in other characters arose from a single strain of B.C.G. In subsequent generations these forms were unstable and interchangeable.

Colonies similar to the S and R forms described by Petroff, Branch and Steenken (*American Review of Tuberculosis*, 1929, Vol. 19, p. 9), were injected into guinea-pigs by different routes. Lesions developed at the site of injection but these usually retrogressed and left no trace. Only rarely was there any spread to other organs. The difference in the virulence of the variants was not marked and while in the case of the S form the lesions were somewhat more extensive, in no instance did there occur rapid, generalized tuberculosis such as that described by Petroff and his co-workers after injection of guinea-pigs with the S colony. After several more subcultures the variants were retested with similar results. Apparently, therefore, there was a difference between the strains used by Petroff and that used in the foregoing experiments.

Although the experiments indicate that the strain under investigation was more or less innocuous when injected into experimental animals, it is not felt that the results justify the view that B.C.G. is a safe "vaccine" with which to immunize the human subject. On the contrary a comparison of the results with those of other investigators suggest that while in a certain strain, virulence may be associated with a particular colony type it is not necessarily associated with a similar colony in another strain.

From the records of various experiments it is evident that B.C.G. has a certain immunizing value and, therefore, in cases where the subject is continually exposed to infection by virulent tubercle bacilli the use of the vaccine may possibly be justified. The extreme variation occurring in strains of B.C.G. and the conflicting reports of various investigators as to the virulence of the organisms when injected into experimental animals make the advisability of general inoculation against tuberculosis by this method a questionable procedure at present. (*M. H. Christison.*)

ACUTE RHEUMATISM.

During the year work was commenced on a study of the bacteriology of acute rheumatism. Recent American work has adduced much evidence in favour of an association between infection with *Streptococcus haemolyticus* and this disease. It has

been shown that an intercurrent infection with this organism has an almost specific action in "lighting up" latent rheumatic disease. Collis and Sheldon (*Lancet*, June 20, pp. 1337 and 1341, 1931), in London have reported similar observations. Rheumatic children in two convalescent homes were involved in outbreaks of acute tonsillitis caused by the hæmolytic streptococcus. In a high proportion of cases there was a definite cardiac relapse one to three weeks after the throat attack. This latent period suggested that the rheumatic relapse was not simply the result of general debility which was most marked during the acute phase of the throat infection. Intercurrent infections with other organisms did not influence the rheumatic condition in the same way. The suggestion has been put forward that the streptococcal infection produces a state of altered reactivity or allergy in the patient. In such an allergic individual products liberated from a persistent focus of infection acquire a heightened toxicity, which may be the essential factor in the production of rheumatism. The hypersensitiveness may be demonstrated by means of an intracutaneous test with intracellular products of the streptococcus in the same way as the tuberculin test indicates the specific allergy resulting from infection with *B. tuberculosis*.

Such tests have been carried out in Edinburgh on series of rheumatic and non-rheumatic children. The work is at present incomplete but positive reactions to extracts of hæmolytic streptococci appear to be much more frequent in rheumatic children than in non-rheumatic controls.*

The whole question of allergy in streptococcal disease requires study, and tests carried out in conjunction with Dr. M'Gibbon (while Resident at the City Fever Hospital) on patients suffering from scarlet fever, a condition known to result from infection with the hæmolytic streptococcus, show that a high proportion become allergic during the second or third week of the disease.

This finding is of interest since it has long been recognised that manifestations of acute rheumatism are definite though somewhat rare sequelæ of scarlatina. It is at present impossible to explain the full significance of the findings but the work opens up new possibilities in the bacteriological study of this common and disabling disease. (*H. J. Gibson.*)

* With the assistance of a grant from the Medical Research Council.

PUERPERAL SEPSIS.

Recent work in relation to puerperal sepsis has emphasised the importance of the human carrier in the causation and spread of the disease. While infection with bacteria previously present in the genital tract can undoubtedly occur after childbirth it is now recognised that such cases are usually of mild type. All severe and fatal cases may be said to result from infection with the hæmolytic streptococcus and the study of sources of infection resolves itself into a consideration of the natural habitat and methods of dissemination of this organism.

Recently Dr. Smith, City Bacteriologist, Aberdeen, has shown clearly that infection of the throat or elsewhere may be demonstrated in those attending cases which subsequently develop puerperal sepsis if a sufficiently exhaustive search is made. Furthermore, he has been able to prove in nearly all cases that the strain isolated from the attendant is identical with that from the patient.

An outbreak of puerperal sepsis in Edinburgh has been studied in the same way. Co-operation with the institution in which the cases occurred and the City Fever Hospital, to which the patients were removed, was secured and it was possible to compare the streptococci isolated from the cases with those found in the throats of the attendants. The most accurate method for the identification and comparison of different strains of streptococci is by the use of agglutinating antisera prepared by inoculating animals repeatedly with cultures of the organisms. Such sera were prepared for a number of the case strains and also for certain of the throat strains from the healthy carriers.

Hæmolytic streptococci were obtained from the blood and uterus of four patients and from the lungs of an infant who died of streptococcal pneumonia. Even in the investigation of such a small outbreak the results showed several unexpected features.

One nurse had suffered from acute tonsillitis shortly before the first case occurred. Her throat was swabbed and *Streptococcus hæmolyticus* was found to be the causative organism. By serological methods including complete agglutinin-absorption tests it could be shown, however, that her organism was not identical with any of the strains isolated from the genital tract or blood of the puerperal fever cases. In a further search for the carrier the throats of all the members of the staff of the institution were swabbed and six nurses were found to harbour the hæmolytic streptococcus. In two of these repeated swabbing showed the period of carriage to be at least three weeks. It was found that the strain from one of the cases was identical with that from one of the nurses and that these were both unlike any of the other strains studied. The remainder of the carrier nurses and the three remaining cases were similarly shown to have been infected with strains which were serologically identical. It was of interest that the organism from the infant was the same as that isolated from the mother and the majority of the carriers. Apparently two separate foci of infection were involved in what seemed to be a single outbreak.

The method of complete serological identification of organisms isolated from carrier attendants and cases of puerperal fever is specially valuable in the epidemiological study of puerperal infection but it is hardly applicable in taking steps to prevent spread of an existing outbreak owing to the time required to prepare antisera. For routine work the rapid examination of throat swabs by the simpler cultural methods provides an index of potentially dangerous carriers and a provisional report can be given within 48 hours after receipt of the swab. (*H. J. Gibson.*)

THE QUESTION OF TYPES OF THE DIPHTHERIA BACILLUS.

Reports have recently come from the continent of epidemics of a severe form of diphtheria, apparently uninfluenced by serum treatment. Although no marked rise in mortality has been experienced in Edinburgh of recent years (1926, 7·8 per cent. ; 1927, 7·3 per cent. ; 1928, 4·8 per cent. ; 1929, 4·7 per cent. ; 1930, 6·4 per cent.), such epidemics have occurred in Leeds, and Anderson, Happold, McLeod and Thomson (1931, *Journal of Pathology and Bacteriology*, Vol. 34, p. 667) of that city have claimed that by using an enriched tellurite-heated-blood medium they can recognize two clearly differentiated colony forms. Associated with each certain further differential characters were observed : viz., in the type of growth in bouillon, cell morphology, production of hæmolysin and fermentative reactions. They claimed that these characters were stable and therefore formed a basis for an exact classification of strains of *B. diphtheriæ*. The form associated with milder cases of the disease, in which there may be extensive membrane formation without serious intoxication they have named "*B. diphtheriæ mitis*"; that associated with the severe and toxic cases uninfluenced by serum therapy, "*B. diphtheriæ gravis*." In a series of 104 cases these workers found 63 yielded cultures of "*gravis*," 35 of "*mitis*" and 6 of intermediate types, all of which were stable.

In collaboration with Dr. A. L. K. Rankin of the City Hospital a series of fifty cases of diphtheria has been investigated from the clinical and bacteriological standpoint, the technique advocated by the Leeds workers being followed for the isolation and differentiation of strains. Considerable difficulty was experienced in grouping them according to the criteria used and no hard and fast classification could be established. A variety of types and a gradation from one extreme to the other were observed not only in colony characters but also in other features.

In this series of fifty only nine strains were observed which corresponded in most respects (but not absolutely) to "*B. diphtheriæ mitis*" and three to "*B. diphtheriæ gravis*." Thus, it was not found possible to classify all the strains into two or three distinct types.

Six strains of the series were tested for stability of growth characters when sub-cultured in series in broth. They showed varying degrees of instability.

When the clinical and bacteriological records were compared it was found that there was no apparent correlation between the severity of the disease and the type of colony isolated from the case. It was observed, however, that the majority of carriers were included in the group which yielded cultures of "*B. diphtheriæ mitis*," but, on the other hand, three of the four fatal cases in the series also occurred in this group. In each of these three cases, however, concurrent disease or late admission to hospital were accountable for the apparent failure of serum therapy.

It was noticed that, with one exception, those cases from which were isolated organisms corresponding somewhat to the "*gravis*" type, fell into the age group 2—6 years.

It may be concluded from these observations of a somewhat limited series that no definite classification from the point of view of colony type and other characters can be established, nor is there any apparent correlation between the clinical severity and the biological characters of the infecting strain.

Therefore, in view of these findings the value of such a method for differentiating clinical types must, meantime, remain open to question. (*H. A. Wright*.)

PUBLICATIONS.

The following papers on bacteriological subjects related to Public Health have been published during the year from the University Bacteriology Department:—

"Observations on passive immunity in the normal subject produced by antipneumococcal serum," by J. M. Alston and D. Stewart, 1931, *Brit. Journ. of Exper. Pathology*, Vol. 12.

"Microbic dissociation with reference to the attenuated tubercle bacillus of Calmette and Guérin (B.C.G.)," by R. S. Begbie, *Edin. Med. Journ.*, March 1931.

"Observations on the ætiology of erythema exudativum multiforme," by G. H. Percival and H. J. Gibson, 1931, *Brit. Journ. Dermat. and Syph.*, Vol. 43 (also from the Skin Department, Royal Infirmary, Edinburgh).

"Lithium selective and enrichment method for the isolation of Salmonella organisms," by J. D. A. Gray, 1931, *Journ. Pathology and Bacteriology*, Vol. 34 (also from Bacteriology Department, Liverpool University).

"Problems on the bacteriology of cholera and cholera-like infections," by M. H. Finkelstein, 1931, *Trans. Roy. Soc. Trop. Med. and Hygiene*, Vol. 25.

The work was carried out under the direction of Professor T. J. Mackie.

The *Medical Staff* of the University who took part in the bacteriological services of the City during 1931 were:—Dr. J. M. Alston and Dr. H. J. Gibson, Lecturers; Dr. C. P. Beattie, Special Assistant; Dr. A. Haddow and Dr. C. van Rooyen, Assistants. Voluntary assistance was also given in special investigations by Miss M. H. Christison and Dr H. A. Wright.

MOTOR AMBULANCE SERVICES.

There are three motor ambulance cars under the direct control of the Department. The cars are stationed at Colinton Mains Hospital and are only used for the removal of patients suffering from infectious disease. The duties of the chauffeurs are so arranged that urgent cases can be removed to hospital at any time during the day or night.

The sick poor are conveyed to the respective municipal hospitals provided for their reception by motor ambulances in charge of the Public Assistance Department. In addition to this the Police have three ambulance cars which are available at all hours for the removal of injured persons to the Royal Infirmary or other hospital dealing with such cases.

The St. Andrews Ambulance Association are in possession of three cars, and on request they arrange for the conveyance of medical or surgical cases to the various institutions in the City.

DISINFECTION.

The disinfection of houses, etc., is carried out by a special staff attached to the Public Health Department.

The bedding and other infected articles of clothing are conveyed to the disinfecting station in motor vans and there treated under high pressure steam or formaldehyde gas.

Particulars as to the number of dwelling-houses disinfected during the last three years are given below :—

	1929.		1930.		1931.	
	Number.	Apart-ments.	Number.	Apart-ments.	Number.	Apart-ments.
Dwelling-houses, etc. :—						
After Tuberculous Disease . . .	1,008	1,367	790	1,158	911	1,414
„ other „ . . .	4,670	6,751	4,770	7,535	2,640	6,147

The following is a summary of the articles removed for disinfection during the year :—

Description.	No. of Articles.		Description.	No. of Articles.	
	After Tuberculous Disease.	After Other Diseases.		After Tuberculous Disease.	After Other Diseases.
Mattresses and Palliasses .	921	2,735	Body Clothes . . .	1,151	23,341
Blankets, Sheets, Quilts, etc.	3,159	8,042	Carpets and Rugs . . .	27	295
Beds, Pillows, Bolsters, etc.	2,017	4,486	Miscellaneous . . .	131	1,636
Curtains, Table Covers, Wraps, etc. . . .	64	193	Destroyed by request .	248	312
Table Napery, Toilet Covers, Towels, etc. . . .	156	464	Totals . . .	7,874	41,504

Second-hand Clothing.—A considerable amount of second-hand clothing has been dealt with during the year. Irish Free State Regulations make it compulsory for exporters of this class of clothing either to produce a certificate from the Medical Officer of Health showing that disinfection has been properly carried out at the place of despatch, or to arrange for their goods to be sent through certain specified ports where disinfection would be carried out free of charge. In order to comply with these Regulations, 391 consignments of second-hand clothing have been disinfected in the course of the year and the necessary certificates were issued.

Straw Packing.—The disinfection of straw packing, used in connection with the export of certain goods, is necessary in order to comply with regulations issued by various foreign countries. This work was carried out at East Pilton Hospital, and during the year 31 consignments were dealt with.

Cleansing of Persons.—Facilities are provided at the disinfection station for personal cleansing, and during the year 579 individuals attended for baths and disinfection of clothing. Of these, 267 adults and 5 children were in a verminous condition, and 18 adults and 289 children were treated for scabies.

RECEPTION HOUSE.

At the Reception House adjoining the Disinfection Station there is ample accommodation for quarantine purposes and the building is always kept in readiness to deal with any emergency that may arise. Fortunately it was not required during the year.

INTERMENTS.

(In terms of Section 69, Public Health (Scotland) Act, 1897.)

The Department was applied to in 86 instances by relatives of deceased persons who represented that they were unable to meet the expenses of burial.

After the usual inquiry had been made 2 of the applications were refused and 4 were withdrawn. In another case the deceased person had been in receipt of an outdoor allowance from the Public Assistance Department who became responsible for the interment. The remaining 79 burials were undertaken by the Public Health Department in terms of the Act.

The following statement shows the expenditure in connection with interments during the last five years :—

Year.	Number.	Total Cost of Interments and Removals.	Sums Recovered from Relatives.	Net Expenditure.
1926	52	£181 15 0	£2 12 6	£179 2 6
1927	54	177 15 0	22 8 0	155 7 0
1928	48	126 13 6	7 13 6	119 0 0
1929	51	153 3 6	17 18 5	135 5 1
1930	50	138 15 6	33 17 9	104 17 9
1931	79	166 4 0	33 8 3	132 15 9

HOSPITAL EXPENDITURE.

The following Table shows the cost per occupied bed in the Hospitals under the control of the Public Health Department. The particulars apply in each case to the financial year to 15th May 1931 and are based on the gross ordinary expenditure :—

Institution.	Daily Average Number of Occupied Beds.	Gross Ordinary Expenditure Year to 15th May 1931.	Cost per Occupied Bed per Week.
City Hospital	531	£53,130 6 8	38/4
Craigleith Hospital	209	25,297 11 2	46/4
Pilton Hospital	125	11,003 2 7	33/6
Royal Victoria Hospital	70	7,860 5 2	42/7
Royal Victoria Farm Colony	12	1,515 17 5	48/4
Victoria Park House	20	1,507 11 6	27/9
Bangour Mental Hospital	1040	86,648 18 8	31/11
Gogarburn Certified Institution	133	9,112 16 7	26/3

PUBLIC HEALTH EXPENDITURE.

The increase in Public Health Expenditure consequent on the introduction of new schemes from time to time is shown in the following Table. The cost of Sick Poor Hospitals and Mental Institutions was included in the accounts for 1929-30, although the control of these services did not pass into the hands of the Town Council until 16th May 1930. The decrease in Revenue in 1930-31 was due to Government Grants being no longer credited to the Public Health account but included in a General Exchequer Contribution in terms of the Local Government Act, 1929.

Year.		Gross Expenditure.	Revenue.	Net Expenditure.
1909-10		£35,159	£699	£34,459
1910-11		34,869	718	34,150
1911-12		35,072	780	34,291
1912-13	T.B. Scheme begun.	37,618	2,690	34,927
1913-14		46,094	14,548	31,546
1914-15		56,768	18,716	38,051
1915-16		56,827	12,997	43,829
1916-17	C.W. Scheme begun.	58,323	23,216	35,107
1917-18		75,198	30,552	44,645
1918-19	V.D. Scheme begun.	99,563	43,029	56,533
1919-20		130,877	49,138	81,738
1920-21	Amalgamation with Leith.	210,875	89,098	121,777
1921-22		184,315	68,450	115,865
1922-23		146,395	67,477	78,917
1923-24		149,873	47,554	102,319
1924-25		156,155	48,949	107,206
1925-26		156,919	54,185	102,734
1926-27		157,895	56,439	101,455
1927-28		* 172,763	56,999	115,764
1928-29		* 177,008	60,512	116,496
1929-30	Includes Sick Poor Hospitals	* 393,168	138,799	254,369
1930-31	and Mental Institutions.	* 394,095	48,070	346,025

* Interest and Debt Charges Included.

MATERNITY AND CHILD WELFARE.

REPORT BY MATERNITY AND CHILD WELFARE MEDICAL OFFICER.

I have the honour to submit a report of the work under the Maternity and Child Welfare Scheme for the year 1931. At the end are placed, for reference, the usual statistical tables associated with the subject matter of the Report.

Births.—(Tables 1 to 5). The total number of births registered during the year was 7,820. After correction the number was 7,164, being 3,632 males and 3,532 females. The corrected birth-rate for the City was 16·2, which is a lower rate than in the previous year and the lowest recorded of the eight large towns in Scotland. The number of births occurring in the suburban area is now on the increase, while for the more central parts the figure is a diminishing one. This is to be expected in view of the recent development of the outlying districts and the migration of inhabitants to them from the City. Another gradual change is shown in the increased tendency for infants to be born in Maternity Homes and Institutions rather than in private houses.

The total births notified were 8,187; of these 451 were stated to be premature and 375 still-born—a lower figure in each case in comparison with those of last year. The illegitimate births numbered 499 or 7·0 per cent. of the total corrected births. This rate has remained more or less stationary since 1921. During the abnormal war years the rate averaged 10 per cent.

Still-Births.—The still-births numbered 375, a decrease of 24 when compared with the previous year.

Deaths.—(Tables 6 to 9). The Infantile Mortality rate for the year was 69. This is the lowest figure yet recorded for the City. The total number of deaths up to five years was 694. Of these, 169 or 24 per cent. occurred during the first week of life, 233 or 34 per cent. during the first four weeks, 492 or 71 per cent. during the first year, and 202 or 29 per cent. between one and five years of age.

During the year no extensive epidemics occurred in the pre-school age period; the only deaths recorded were three from measles and nineteen due to whooping cough. Of the 492 deaths under one year, prematurity and pneumonia (all forms) together accounted for 226 or 46 per cent.—nearly half the total for the year. Separately stated, there were 117 deaths from prematurity, or 24 per cent. of the total, and 109 from pneumonia or 22 per cent. Grouped according to age periods, of the total 492 deaths, 169 or 34 per cent. occurred in the first week of life, and 233 or 47 per cent. in the first four weeks of life.

It is interesting to note that only one of the twenty-three municipal wards returned an infantile mortality rate of over 100, viz., St. Leonard's, 104.

From a general survey of all these mortality figures the facts emerge that in the first month, prematurity, and during the remaining eleven months, pneumonia, are the chief causes of death in the first twelve months of life. At the present time a great deal of attention is being given to the problems of nutrition, and much research work is being carried out in connection with them. The study of the influence of the nutrition factor is bound to assist in suggesting the most helpful means of preventing these two causes of high infant mortality.

Of the total 694 deaths of children up to 5 years of age, 613 or 88 per cent. were legitimate and 81 or 12 per cent. were illegitimate. Calculated for age periods the

comparable figures are as follows :—Deaths under one week 24 and 23 per cent. respectively ; under four weeks 37 and 33 per cent. ; under one year 77 and 70 per cent., and between one and five years 23 and 30 per cent. respectively. It will be noted therefore that the percentage figures for each group vary very little from each other.

The Neonatal Death-rate—(*i.e.*, the number of deaths of infants occurring in the first four weeks of life per 1,000 live births)—was 33.

Ante-Natal Clinics (Table 10).—Closely associated with these pre-natal and natal periods of the infant's life is the health of the mother. The Ante-natal Clinics show an increase in actual attendances of 2,227 compared with 1930. Towards the end of the year two new clinics were started—one in the Prestonfield area and one in Portobello. As these clinics increase in number, sufficient extra beds for indoor ante-natal treatment should be provided, otherwise much of their value will be lost. At present the indoor accommodation is not sufficient to cope with the demand.

Ophthalmia Neonatorum (Table 11).—There were 14 cases notified during the year, which is seven less than in 1930 and the lowest ever recorded. Of these the majority, eleven, were treated in hospital. None resulted in either partial or total blindness. There is no doubt that the ever lessening incidence in Edinburgh of this infection is due in the first place to the ante-natal clinics being increasingly taken advantage of by the mothers, and secondly to the close co-operation between the two departments of Venereal Diseases and Maternity and Child Welfare which facilitates the immediate hospitalisation of the infants as well as of the majority of the mothers. The treatment of the mother is imperative if we are to eliminate the risk of the condition being contracted by a subsequent child.

Post-Natal Clinics (Table 12).—The value of the post-natal clinics need not be dwelt upon. These are beginning to be appreciated by all who are anxious to obviate ill-health in later life from the effects of childbirth. During the year 202 such clinics were held, with 2,419 attendances.

Midwives Act (Table 13).—There are only 18 practising midwives on the local roll, and their activities are mostly restricted to the Leith area. The actual number of births they attended was 393 or 5 per cent. of the total births. Medical practitioners were called in by midwives in 28 cases of emergency. The working of the Midwives Act locally for the past year has been satisfactory.

Maternity Homes Act, 1928.—At the beginning of the year there were 31 Maternity Homes under supervision. During the year three new homes were accepted for Registration and three were given up, leaving still 31 registered Maternity Homes at the end of the year. These Homes are kept under constant supervision. A daily record of all births occurring in them is kept in a special register, and these where necessary are followed up.

Puerperal Fever and Pyrexia (Table 14).—Statistics in regard to the cases of puerperal fever will be seen on page 68.

Maternal Deaths (Tables 15 to 17).—The number of maternal deaths occurring in the City was 79, showing a decrease of 13 compared with the previous year. Of these 79 deaths, 28 were of women who had come to the City for their confinement and their deaths were transferred to the district of permanent residence. Thus after adjustment, 51 deaths of Edinburgh citizens remain to be noted as compared with 59 in 1930. Septicæmia accounted for 16 of these deaths, or 31 per cent. of the total. There were 10 deaths from toxæmias of pregnancy, 5 from hæmorrhage, 4 from embolism and 16 from other conditions complicating or associated with childbirth.

Visits to Homes.—Health Visitors on the Staff have allotted to them a district of the City and make themselves responsible for visiting mothers and babies in their

homes. Extra visits are also frequently made under their supervision by nurses in training for the Health Visitor's Diploma. During the past year 5,751 infants under one year of age were kept under supervision and received 29,420 visits; 53,214 visits were paid to children between one and five years of age, 586 of which were visited for the first time at this age period. In addition 4,177 visits were paid to expectant mothers. The assistant medical staff were called upon to make 1,494 visits, mostly to sick infants, and about 900 children were visited at fortnightly intervals by members of the Voluntary Health Workers' Association.

Staff.—In the autumn a change was effected in the assistant Medical Staff of the Department. Whereas up to that time there were four whole-time lady assistants, the services of two of these were dispensed with, and instead, three temporary clinical assistants were appointed, whose duties are to take part in the medical inspection of children in the schools in the forenoons and to assist with the child welfare clinics in the afternoons. The visiting of sick children whose parents are unable to pay doctor's fees, and which was such a valuable part of the Department's work, has been given up and is now done only in cases of emergency.

Clinics (Tables 18 to 20).—Ante-natal and post-natal clinics have already been referred to. The infant and child clinics are grouped into preventive and curative clinics; these are carried on at thirteen child welfare centres, which include Prestonfield centre, opened in the month of May. The clinic formerly carried on at Riego Street Dispensary was discontinued in the same month. It is noteworthy that an examination of the figures of attendances at the preventive and curative clinics in recent years shows a very definite increase at the former, whereas the attendances at the curative clinics tend rather towards a decrease. The following figures for last year are typical as showing this wished-for result of Child Welfare preventive work. At the preventive clinics the total new cases amounted to 2,811, compared with 2,348 for 1930, and the total attendances of all new and old cases were 35,354 compared with 31,733. At the curative clinics the new cases numbered 2,901 as against 3,223 for 1930, and the total attendances of new and old cases, 15,266 as against 16,208 for the previous year.

Ultra Violet Ray Therapy has been carried on at two centres, there being three morning clinics per week. At Leith Welfare Centre 152 children have undergone 2,936 exposures to the mercury vapour lamp. At the Pleasance Welfare Centre 238 children have attended and received 3,357 exposures, 1,484 to the mercury vapour lamp and 1,873 to the carbon arc lamp.

Milk and Dinners (Table 21).—Dinner and Milk tickets are supplied where the health conditions of either mother or child require it. At present dinners are restricted to expectant and nursing mothers. It would be of added value from the health point of view if facilities were also available for supplying dinners to toddlers.

Day Nurseries (Table 22).—At the four Day Nurseries the total attendances of infants were 6,858 and of children 17,559—a grand total of 24,417 attendances, which is an increase on the previous year of 1,655 attendances.

At Leith Day Nursery six cots are set aside for the residential care of healthy children whose mothers have to enter hospital for treatment and who cannot be left at home. This has proved a most valuable provision and similar facilities might well be developed at the other Day Nurseries.

Toddler Playgrounds (Table 23).—There are thirteen Toddler Playgrounds under the direction of the Voluntary Health Workers' Association. These are open two hours each forenoon, when the toddlers are taught to play simple games and to act motion stories, such as will bring all their muscles into action and tone them up, thus improving the general physique of the body. The daily attendance of toddlers was 467, and many more names are on the waiting list but cannot be dealt with in the meantime for lack of sufficient and suitable playgrounds.

Homes for Mothers and Infants.—Edinburgh is fortunate in having a number of Homes for Mothers and Infants, most of which receive a grant from the Corporation, and all of which do a great deal of good work in close co-operation with this Department. One of these—the Convalescent Home at Fushiebridge—I should like specially to mention. The Misses Romanes own this Home and make themselves responsible for the whole cost of it. At their invitation free hospitality is given to a number of mothers and children specially selected by the Department. The generous help thus afforded by these ladies has been much appreciated by their guests, as is testified by their numerous grateful and unsolicited letters of thanks.

The Edinburgh Home for Mothers and Babies had in residence 34 girls and 24 infants, of whom 24 girls and 20 infants were new admissions during the year. The girls stay in the Home usually about four months.

The Salvation Army Home for Mothers and Infants at Bonnington Bank House had in residence on 1st January 21 mothers (including expectant mothers) and 13 babies. During the year 30 mothers and 26 babies were admitted and 30 mothers and 26 babies were discharged. At the end of the year there were still in the Home 21 mothers and 13 babies.

During the year 23 mothers, 18 infants, and 5 toddlers were admitted to the Duddingston Hawthornbrae Convalescent Home, and were paid for by the Corporation.

Leadburn Home for Tired Mothers and Providence House, Kinghorn, both continue to accept cases recommended by the Department.

The Home for Babies at Polwarth Terrace had 14 infants in residence on the 1st January. During the year 14 babies were admitted. The figures for the annexe at Forbes Road were 6 and 7 respectively.

To Humbie Children's Village 159 toddler children were sent during the year for periods of three to four weeks and were paid for out of Corporation Funds.

Victoria Park Home.—The bed accommodation—20 cots—in Victoria Park Home for ailing infants and children is always taxed to the full. The improvement in the condition of the children on discharge is due to the fact that whenever the weather permits they live an open-air life, and the atmosphere of “institutional life” is as far as possible eliminated from the Home. The babies thus receive from the very efficient Matron and her devoted staff that amount of individual handling and “mothering” which is essential to their recovery and which is seldom possible of achievement where large numbers are herded together. The usefulness of the Home would be enhanced were it possible to admit one or two mothers who experience difficulty in rearing their infants at the breast. Were accommodation available for a few such cases there is little doubt that these infants would be rescued from artificial feeding. The total number of children under treatment during the year was 140, of whom 19 were already in residence on the 1st January. The average daily occupation was 21·0.

Mothercraft Classes.—Once more the Mothercraft Classes have been conducted by the Staff with conspicuous success and enthusiasm. 242 mothers attended, of whom 134 entered the competition by written examination for the Hutchison Silver Shield. This Shield, which in 1930 was won by Windsor Street Centre, was this year captured for the Stockbridge Centre by Mrs Mark Reid. This was the first time the Centre had competed for the Shield. The Staff is grateful to the Lady Provost for having so graciously presided over the gathering of mothers and infants at Balgreen House in June, when she presented the Shield to the winner, and in addition, the prizes to the successful competitors, in the section for garments and other articles useful for the home.

Cookery Demonstrations.—Miss Gilmour has again been available this year for giving special demonstrations in cookery to mothers, and as usual has been in great demand by the various centres. Miss Gilmour has a special aptitude for the particular type of work she undertakes. She teaches only that which is of use to mothers whose facilities for cooking are extremely restricted. This year, mothers at Chessel's Court, Gorgie, Leith, and Prestonfield, have benefited from her tuition and learned how it is possible to cook varied and nourishing meals on nothing more than an ordinary bedroom fire and a small gas ring.

Rheumatic Clinic (Tables 24—25).—The Rheumatic Clinic is held once a week in the forenoons at the Royal Hospital for Sick Children, and is under the clinical charge of Dr. Norman Carmichael and Dr. Lewis Thatcher. The clinic was originally started in April 1930, and since then there have been 450 attendances of children. Of these, 144 were new cases, 107 being definitely diagnosed as of a rheumatic nature, while 37 were found to be suffering from conditions other than rheumatism. The number of cases reported since notification of the disease was instituted in 1930 was 252, of whom 80 were intimated in the course of the year under review. A table giving an analysis of the 144 new cases is shown on page 71.

The clinic continues to be of value in detecting rheumatic disease in its early stages, thus affording opportunities for timely treatment. The following-up of cases by periodic examination at stated intervals is equally important in order to regulate the amount of rest and of exercise to be allowed, to give advice regarding school attendance, and in other ways to control the mode of life of the rheumatic child. There is little difficulty in finding hospital accommodation for acute cases of rheumatism. There are, however, few, if any, facilities available for the institutional care of convalescent cases who require to be kept in bed but who are able to take an interest in life and to benefit from some education.

I have pleasure in testifying to much valuable work carried out during the past year by many helpers whom the Department is fortunate in having associated with it and I desire to thank them—one and all—official and voluntary—for all they have done.

I have, Sir, the honour to remain,

Your obedient Servant,

T. Y. FINLAY, M.D., F.R.C.P.E.,
Maternity and Child Welfare Medical Officer.

TABLE 1.—Particulars regarding BIRTHS after necessary corrections have been made for transfers.

Quarter.	Total Births.	Legitimate.	Illegitimate.	Percentage of Illegitimate to Total Births.
1st .	1,752	1,603	149	8.5
2nd .	1,955	1,822	133	6.8
3rd .	1,746	1,637	109	6.3
4th .	1,711	1,603	108	6.4
Totals	7,164	6,665	499	7.0

TABLE 2.—BIRTHS allocated according to the three areas of the extended City.

Area.	Births.	Rate per 1000 of Population.
Edinburgh	4,937	15.5
Leith	1,534	18.7
Suburban	491	16.4
Institutions	160	...
Military Quarters	42	...
Whole City	<u>7,164</u>	<u>16.2</u>

TABLE 3.—Corrected BIRTH-RATES for the eight large towns in Scotland and for the whole of Scotland for 1931.

Town.	Per 1000 of Population.	Town.	Per 1000 of Population.
Glasgow	20.9	Paisley	20.4
Edinburgh	16.2	Greenock	23.4
Dundee	19.5	Motherwell and Wishaw	21.6
Aberdeen	19.3	Clydebank	20.5

SCOTLAND . . 19.0

TABLE 4.—NOTIFICATION OF BIRTHS—Analysis of 8,187 births notified during the year.

I. Births attended by Private Doctors	1831
II. Births attended by Private Doctors with a District Nurse—	
(1) Queen's Nurses	954
(2) Buccleuch Place Nurses	155
	<u>1109</u>
III. Births attended by Registered Midwives	393
IV. Births attended by Students and Pupil Nurses in their own homes—	
(1) Royal Maternity Hospital	991
(2) Elsie Inglis Memorial Hospital	343
(3) Cowgate Dispensary	355
(4) Deaconess Hospital	73
(5) Edinburgh Lying-in Institution	8
	<u>1770</u>
V. Births attended in Maternity Hospitals and Training Centres—	
(1) Royal Maternity Hospital	2000
(2) Elsie Inglis Memorial Hospital	931
(3) Deaconess Hospital	11
(4) Edinburgh Lying-in Institution	76
(5) Craigleith Hospital	66
	<u>3084</u>
	<u>8187</u>

TABLE 5.—Analysis of comparable figures in percentages of the BIRTHS for the past five years.

	1927.	1928.	1929.	1930.	1931.
Births attended by—					
Private Doctors	Per cent. 43	Per cent. 43	Per cent. 49	Per cent. 40	Per cent. 36
Private Doctors with a District Nurse } .					
Registered Midwives	6	5	5	5	5
Students and Pupil Nurses in Patient's Home .	22	22	18	21	21
In Maternity Hospitals and Training Centres	29	30	28	34	38
	100	100	100	100	100

TABLE 6.—Distribution of the DEATHS under ONE YEAR in the different districts of the City, together with the MORTALITY-RATE for the respective areas.

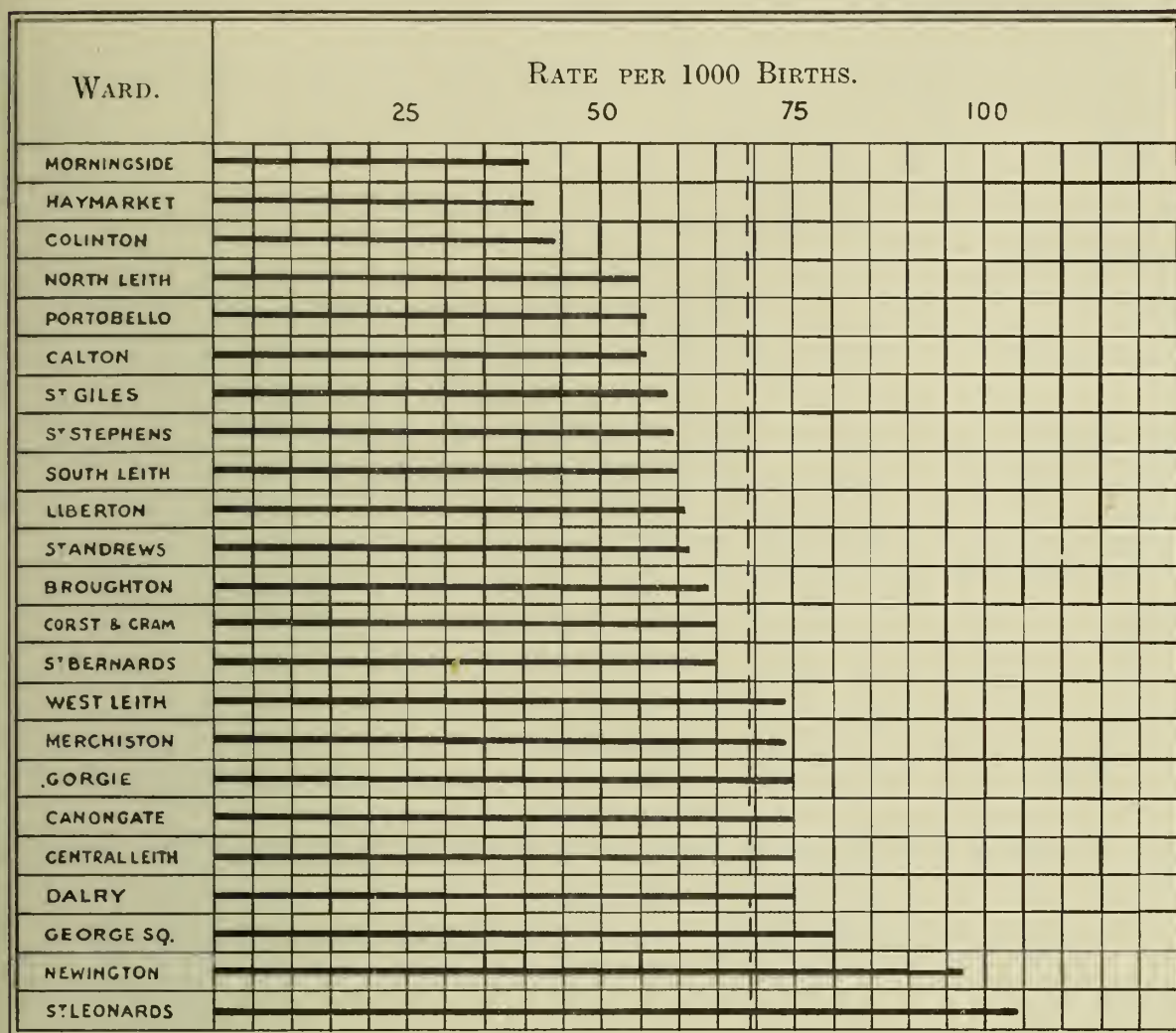
Area.	Deaths under 1 year.	Deaths per 1000 Births.
Edinburgh . . .	344	70
Leith	98	64
Suburban . . .	29	59
Institutions . . .	21	...
Military Quarters . . .	...	...
Whole City . . .	492	69
Figures for 1930 . . .	596	82

TABLE 7.—Particulars regarding BIRTHS, DEATHS of CHILDREN at age periods from ONE to FIVE YEARS, and also the INFANTILE MORTALITY in each of the twenty-three Municipal Wards.

[illegible]

In the following Diagram the infantile mortality experienced in the various municipal Wards can be readily compared with the rate for the City.

INFANTILE MORTALITY.—DEATHS PER 1000 BIRTHS.



----- Infantile Mortality Rate for City

TABLE 8.—CAUSES of DEATH among CHILDREN under FIVE YEARS during 1931.

CAUSE OF DEATH.	Under 1 Week.	1, and under 2 Weeks.	2, and under 3 Weeks.	3, and under 4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3, and under 6 Months.	6, and under 9 Months.	9, and under 12 Months.	Total under 12 Months.	12 Months and under 2 Years.	2, and under 3 Years.	3, and under 4 Years.	4, and under 5 Years.	Total 1-5 Years.	Total under 5 Years.
Smallpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles . . . . .	...	...	...	...	...	...	...	...	2	2	...	...	...	1	1	3
Scarlet Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	2
Whooping Cough . . . . .	...	...	...	...	...	...	1	6	3	10	7	1	...	1	9	19
Diphtheria and Croup . . . . .	...	...	...	...	...	...	...	...	...	...	4	3	...	2	9	9
Erysipelas . . . . .	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1
Tuberculous Meningitis . . . . .	...	...	...	...	...	...	2	...	1	3	9	3	3	4	19	22
Abdominal Tuberculosis . . . . .	...	...	...	...	...	...	...	...	...	...	2	1	1	...	4	4
Other Tuberculous Disease . . . . .	...	...	...	...	...	...	2	3	1	6	...	1	4	2	7	13
Meningitis (not Tuberculous) . . . . .	...	...	...	...	...	3	1	...	1	5	3	1	1	...	5	10
Hydrocephalus	2	...	...	...	2	...	...	...	...	2	2	...	...	...	2	4
Convulsions	2	2	...	...	4	1	2	...	2	9	...	2	...	...	2	11
Pneumonia (all forms)	3	5	4	4	16	15	30	26	22	109	50	18	7	2	77	186
Bronchitis . . . . .	...	...	1	2	3	12	5	5	2	27	1	1	...	...	2	29
Laryngitis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Diarrhoea and Enteritis . . . . .	...	...	...	2	2	4	17	2	2	27	2	...	...	...	2	29
Other Digestive Diseases . . . . .	...	...	...	1	1	1	2	1	6	11	2	2	2	1	7	18
Congenital Malformations	5	...	1	...	6	5	2	1	1	15	...	...	...	...	...	15
Congenital Heart	2	1	2	...	5	2	...	...	1	8	...	...	...	...	...	8
Premature Birth	93	7	5	4	109	6	2	...	...	117	...	...	...	...	...	117
Atrophy, Debility, and Marasmus	18	2	3	2	25	9	6	...	...	40	...	...	...	...	...	40
Atelectasis	17	3	...	...	20	1	...	...	...	21	...	...	...	...	...	21
Injury at Birth	19	3	...	1	23	...	2	...	...	25	...	...	...	...	...	25
Suffocation, overlaying . . . . .	...	...	1	2	3	3	...	...	...	6	...	...	...	...	...	6
Syphilis . . . . .	...	...	1	...	1	1	...	...	...	2	...	...	...	...	...	2
Rickets . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All other Causes	8	3	1	1	13	9	8	8	9	47	13	15	9	15	52	99
Totals	169	26	19	19	233	72	82	52	53	492	96	48	29	29	202	694

TABLE 9.—CAUSES of DEATH among ILLEGITIMATE CHILDREN under FIVE YEARS during 1931.

CAUSE OF DEATH.	Under 1 Week.	1, and under 2 Weeks.	2, and under 3 Weeks.	3, and under 4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3, and under 6 Months.	6, and under 9 Months.	9, and under 12 Months.	Total under 12 Months.	12 Months and under 2 Years.	2, and under 3 Years.	3, and under 4 Years.	4, and under 5 Years.	Total 1-5 Years.	Total under 5 Years.
Smallpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles . . . . .	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1
Scarlet Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough . . . . .	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1
Diphtheria and Croup . . . . .	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1
Erysipelas . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis . . . . .	...	...	...	...	...	...	...	...	1	1	1	1	...	...	2	3
Abdominal Tuberculosis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Other Tuberculous Disease . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Meningitis (not Tuberculous) . . . . .	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1
Hydrocephalus . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Convulsions . . . . .	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1
Pneumonia (all forms)	1	...	2	2	5	3	3	2	2	15	7	1	...	...	8	23
Bronchitis . . . . .	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1
Laryngitis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea and Enteritis . . . . .	...	...	...	...	...	...	5	...	...	5	...	...	...	...	...	5
Other Digestive Diseases . . . . .	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1
Congenital Malformations	1	...	1	...	2	...	...	...	...	2	...	...	...	...	...	2
Congenital Heart . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Premature Birth	7	1	...	1	9	...	...	...	...	9	...	...	...	...	...	9
Atrophy, Debility, and Marasmus	2	...	1	1	4	3	2	...	...	9	...	...	...	...	...	9
Atelectasis . . . . .	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1
Injury at Birth	1	...	...	1	2	...	...	...	...	2	...	...	...	...	...	2
Suffocation, overlaying . . . . .	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	1
Syphilis . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rickets . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All other Causes	7	...	...	...	7	2	2	...	1	12	2	3	1	...	6	18
Totals	19	1	5	5	30	11	14	2	5	62	11	6	2	...	19	81

TABLE 10.—ANTE-NATAL CLINICS.

CENTRE.	Number of Clinics held.	ATTENDANCES.		
		New Cases	Old Cases.	Total.
Cowgate	98	512	766	1,278
Torphichen Street	47	99	282	381
Marshall Street	48	70	263	333
Royal Maternity Hospital	364	2,180	8,459	10,639
Leith	49	263	397	660
Elsie Inglis Memorial Hospital	153	1,248	4,371	5,619
Prestonfield	17	44	115	159
Portobello	9	8	17	25
Totals	785	4,424	14,670	19,094
Figures for 1930	762	4,629	12,238	16,867

TABLE 11.—OPHTHALMIA NEONATORUM. The interval in days between the Birth of the Child and the onset of the disease.

Days .	1	2	3	4	5	6	7	8	9	10	Over 10 days and under 3 months.	No Par- ticulars.	Total.
Cases .	1	2	1	1	3	0	0	1	1	1	2	1	14

The Confinement was attended by :—

A Doctor and Nurse	2 cases.
Nurses from Institutions	2 cases.
In Institutions	9 cases.
Midwives	1 case.—Total, 14 cases.

Treatment was given :—

At Home	2 cases.
At Home and Welfare Centres	1 case.
In Hospital	11 cases.—Total, 14 cases.

Hospital treatment was given :—

In Pilton Hospital	10 cases.
In Craiglockhart Hospital	1 case.—Total, 11 cases.

A Queen's Jubilee Nurse or a Nurse from the Royal Maternity Hospital attended to those children who were treated in their homes.

TABLE 12.—POST-NATAL CLINICS.

CENTRE.	No. of Clinics held.	Attendances.
Royal Maternity Hospital	52	1123
Elsie Inglis Memorial Hospital	103	1103
Torphichen Street Dispensary	47	193
Totals	202	2419

TABLE 13.—MIDWIVES ACT.

Report for the year in terms of the Midwives (Scotland) Act, 1915 :—

1. The number of certified Midwives who intimated to the Local Authority their intention to practice in the district	18
2. (a) Total number of Births	7820
(b) Total number of Deaths of New-born Children (within 10 days)	223
(c) Actual number of Births attended by Midwives	393
(d) Deaths of New-born Children occurring in the practice of Midwives	7
(e) Number of Births not attended by a Doctor or Midwife	0
3. (a) Total number of cases of Ophthalmia Neonatorum	14
(b) Actual number of cases of Ophthalmia Neonatorum occurring in the practice of Midwives	1
(c) Actual number of cases occurring where confinement not attended by a Doctor or Midwife	0
4. (a) Total number of cases of Puerperal Sepsis	203
(b) Total number of Deaths from Puerperal Sepsis	*21
(c) Actual number of cases of Sepsis in practice of Midwives	1
(d) Actual number of Deaths from Puerperal Sepsis in practice of Midwives	0
(e) Actual number of cases occurring where confinement not attended by a Doctor or Midwife	0
5. (a) Total number of Still-births	375
(b) Actual number of cases of Still-births occurring in the practice of Midwives	10
6. Cases of Emergency	28

* Includes 5 deaths transferred to other districts.

The total cases of emergency in which medical practitioners were called in, under Section 22 of the Act, during 1931 are noted in the following classified list, and number 28, as compared with 26 in 1930 :—

Still-births	6
Prematurity	1
Delayed labour	15
Cord presentation	2
Breech presentation	1
Placenta Prævia	1
Adherent Placenta	1
Rise in temperature	1
	<hr/>
	28
	<hr/>

TABLE 14.—PUERPERAL FEVER AND PYREXIA.

The following figures are given in connection with the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations (Scotland), 1929 :—

Total number of cases of puerperal fever	113
„ „ puerperal pyrexia	90
„ deaths from puerperal fever	*21
„ cases removed to Infectious Diseases Hospital.	
(a) Fever	108
(b) Pyrexia	20

* Includes 5 deaths transferred to other districts.

Number of cases of puerperal fever and puerperal pyrexia where assistance was provided :—

1. Consultant	4 cases.
2. Hospital treatment	172 „

TABLE 15.—MATERNAL DEATHS.

Ages at Death :—

Under 20 years	.	.	2 or 3.9	per cent. of the total.		
20 years and under 25 years	.	.	5 „	9.9 „	„	„
25 years and under 30 years	.	.	14 „	27.4 „	„	„
30 years and under 35 years	.	.	13 „	25.5 „	„	„
35 years and under 40 years	.	.	14 „	27.4 „	„	„
40 years and under 45 years	.	.	3 „	5.9 „	„	„
Total			51	100.0		

TABLE 16.

Causes of Death :—

Septicæmia.		Conditions complicating or associated with Childbirth.	
Puerperal sepsis	16	Chloroform Anæsthesia	2
	— 16	Rupture of Uterus	1
Toxæmia,		Ectopic Gestation	1
Pregnancy toxæmia without convulsions	4	General Peritonitis	3
Eclampsia	3	Pleurisy	1
Hyperemesis	1	Lobar Pneumonia	1
Uræmia	2	Pulmonary Tuberculosis	2
	— 10	Organic Heart Disease	4
Hæmorrhage.		Purpura Hæmorrhagica	1
Antepartum Hæmorrhage	1		— 16
Postpartum Hæmorrhage	2		
Placenta Prævia	2		
	— 5		
Embolism.			
Number of Deaths	4	Total	51
	— 4		—

TABLE 17.

MATERNAL DEATHS, 1931.	Septicæmia.	Toxæmia.	Hæmorrhage.	Embolism.	Other conditions complicating or associated with Child-birth	Totals.
Cases attended by—						
Private Doctors and died at home	0	3	1	2	2	8
Private Doctors and removed to Institutions.	12	5	2	1	5	25
Midwives and removed to Institutions	0	0	0	0	0	0
Dispensaries and Pupil Nurses and removed to Institutions	0	0	1	0	1	2
Dispensaries and Pupil Nurses at home	0	0	0	0	0	0
In Institutions	4	2	1	1	8	16
Totals	16	10	5	4	16	51

TABLE 18.—PREVENTIVE CLINICS.

CENTRE.	Number of Clinics held.	NEW CASES.			TOTAL ATTENDANCES.		
		Under 1 year.	Over 1 year.	TOTAL.	Under 1 year.	Over 1 year.	TOTAL.
Gorgie	90	161	47	208	1,662	1,245	2,907
Torphichen Street	101	313	82	395	2,986	1,933	4,919
High Street	101	180	11	191	2,602	2,398	5,000
Pleasance	144	356	88	444	4,669	3,391	8,060
Windsor Street	100	262	116	378	2,232	1,483	3,715
Stockbridge	94	229	98	327	2,597	1,610	4,207
* Marshall Street	49	134	72	206	1,300	482	1,782
* Elsie Inglis Memorial Hospital	144	294	108	402	1,850	1,139	2,989
Prestonfield	52	108	152	260	1,022	753	1,775
TOTALS	875	2,037	774	2,811	20,920	14,434	35,354
Figures for 1930	806	1,707	641	2,348	17,964	13,769	31,733

* These Dispensaries receive a grant from the Corporation.

TABLE 19.—CURATIVE CLINICS.

CENTRE.	Number of Clinics held.	ATTENDANCES.		
		Old Cases.	New Cases.	TOTAL.
* Cowgate	98	2,028	261	2,289
Gorgie	48	270	174	444
* Torphichen Street	52	505	385	890
High Street	43	1,473	51	1,524
* Marshall Street	47	287	96	383
Portobello	92	2,302	186	2,488
* Riego Street	19	315	40	355
Leith	146	4,441	1,151	5,592
* Elsie Inglis Memorial Hospital	103	744	557	1,301
TOTALS	648	12,365	2,901	15,266
Figures for 1930	734	12,985	3,223	16,208

* These Dispensaries are subsidised by the Corporation, the clinics being conducted by doctors on the regular staffs of the Dispensaries.

TABLE 20.—ULTRA VIOLET RAY CLINICS.

CENTRE.	Number of Cases.	Number of Exposures given.	
		M.V. Lamp.	C.A. Lamp.
Leith	152	2,936	...
Pleasance	238	1,484	1,873
Totals	390	4,420	1,873

TABLE 21.—MILK AND DINNERS.

The distribution of milk and dinners during the year was as follows :—

Milk—Assisted	86,631 pints.
Free	191 „
Dinners—Assisted	14,764
Free . . . . .	...

TABLE 22.—DAY NURSERIES.

Day Nursery.	Attendances— Infants.	Attendances— Children.	Total Attendances.
Henderson Row	1,464	3,321	4,785
Dumbiedykes Road	2,308	5,191	7,499
Viewforth Terrace	1,264	3,603	4,867
South Fort Street, Leith	1,822	5,444	7,266
TOTALS	6,858	17,559	24,417
Figures for 1930	5,366	17,396	22,762

TABLE 23.—TODDLER PLAYGROUNDS.

Centre.	No. on Roll.	Daily Attendance.	Centre.	No. on Roll.	Daily Attendance.
Fountainbridge	40	25	Central Halls	70	40
High Street	54	45	Leith—Keddie Pk.	84	75
Pleasance	50	48	„ Junction St.	74	55
Stockbridge	56	32	Barony Street	50	32
Cowgate	28	11	Chessel's Court	20	14
High School Yards	28	24	Portobello	50	36
Tron Square	45	30	Totals	649	467

TABLE 24.—RHEUMATIC CLINIC.

Analysis of 144 new cases seen at Rheumatic Clinic.					
RHEUMATIC.			OTHER CONDITIONS.		
Prodromal only	18		Congenital carditis	3	
Arthritis only	13		Nervous Instability, including ties and 1		
Chorea only	20		post-encephalitic	13	
Carditis only	42		Intestinal Indigestion	6	
„ and Chorea	8		General debility	2	
Definite Rheumatic History but no mani- festations thereof	6		Post-influenzal debility	2	
	—		Respiratory catarrhs	3	
	107		Acute Tonsillitis	1	
	—		Rickety deformities	1	
			Flat feet	1	
			Acute appendicitis (albinism)	1	
			Rheumatoid Arthritis	1	
			Peripheral neuritis	1	
			Spinal caries	1	
			Congenital syphilis	1	
				—	
				37	
				—	

TABLE 25.

Degrees of Disability of 107 Cases diagnosed as Rheumatic when first seen.	
1. No restriction of activities necessary	31
2. Able for fairly active physical exertion, but must have definite limitations to activities	37
3. May have certain small amount of physical activity	11
4. Confined to bed	28
	—
	107
	—

VENEREAL DISEASES.

REPORT BY CLINICAL MEDICAL OFFICER.

I have the honour to submit to you a Report of the work carried out under the Venereal Diseases Scheme during 1931.

During the year 5,266 new patients were examined at the following centres :—

	Men.	Women and Children.	Total.
Royal Infirmary	2,171	878	3,049
Subsidiary Clinics . . . . .	...	305	305
Bruntsfield Hospital, Elsie Inglis Hospital and Dispensaries . . . . .	...	898	898
Royal Maternity Hospital . . . . .	...	744	744
Seamen's Dispensary, Leith	270	...	270
Totals	2,441	2,825	5,266

These figures represent new cases only, and show a slight decrease from 1930. In addition to new patients, 4,148 others, who had not completed their treatment on 1st January 1931, continued to attend. A total of 9,414 cases were thus under active treatment during the year.

Of the 5,266 new patients, 1,266 suffered from syphilis, 1,604 from gonorrhœa, 77 from soft sore, and 92 had a dual infection. In 2,227 patients there were symptoms of disease of the genital and other structures, but no evidence of venereal infection was found after submitting these patients to a series of tests over a period of time sufficiently long to make certain that there was no latent venereal disease.

Admission to hospital was necessary in 611 cases, in addition to the patients who were admitted to the Maternity Hospitals for their confinement. The total in-patients and the institutions in which they received treatment are indicated in the following Table :—

	Men.	Women and Children.	Total.
Royal Infirmary	276	129	405
Subsidiary Hospital . . . . .	...	167	167
Bruntsfield Hospital and Elsie Inglis Hospital . . . . .	...	219	219
Royal Maternity Hospital . . . . .	...	214	214
Totals	276	729	1,005

The number of attendances of out-patients was as follows :—

Royal Infirmary, Males	86,155
„ „ Females	22,477
Subsidiary Clinics	3,599
Bruntsfield Hospital and Dispensaries	8,801
Royal Maternity Hospital	2,198
Seamen's Dispensary, Leith	13,701

The aggregate total attendances were 136,931, of which 99,856 were by male patients, and 37,075 by women and children.

There is a definite increase in the total attendances and in the attendance rate per patient. At the two larger centres, the male and female departments of the Royal Infirmary, the average attendances each day were 278 for men and 85 for women and children. The increased attendance rate is one of the most satisfactory points in this work and shows the confidence which patients have in the Centres.

An analysis of the cases of venereal disease seen for the first time during the year shows the following percentages :—

Incidence and
Types of
Disease.

Syphilis	.	.	.	44.5 per cent.
Gonorrhœa	.	.	.	52.7 „
Soft Sore	.	.	.	2.5 „

A dual infection with syphilis and gonorrhœa was found in 3 per cent. of the patients.

As gonorrhœa is known to be much more prevalent than syphilis, these percentages are interesting and suggest that a considerable amount of gonorrhœa is either untreated or is being treated by general practitioners.

In an analysis of the cases of syphilis attending the male department of the Royal Infirmary :—

Acquired
Syphilis.

9.8 per cent.	reported while their infection was sero-negative.
25.2 „	had reached the generalisation stage (W. R. xxx).
39.1 „	were cases of late manifestations or latent syphilis.
17.1 „	showed, among other lesions, involvement of the cardiovascular or central nervous system.
8.2 „	suffered from inherited syphilis.

There were 225 cases of inherited syphilis. In addition 109 cases of children born of syphilitic parents were kept under observation. These cases are still under observation and at present show neither clinical nor serological evidence of syphilis.

Inherited
Syphilis.

Observation of such children is required after birth although the mothers have been treated antenatally. The longer they are observed, the more convinced are those in charge of antenatal departments and venereal diseases clinics that this branch of preventive medicine is bearing fruit as very few of these children show any evidence of the parental disease at a later date. Inherited syphilis is showing a progressive decrease as a result of antenatal treatment.

The number of cases of gonococcal infection shows an increase in both sexes.

Gonorrhœa.

Ophthalmia neonatorum is due mostly to untreated or uncured gonococcal infection in the mother. In 1931, 14 cases of ophthalmia were notified to the Edinburgh local authority; 10 of these were treated in hospital and 6 proved bacteriologically to be true cases of ophthalmia. From other areas participating in the Scheme, 6 cases were admitted to hospital, of which 2 were found to show microscopic evidence of gonococcal infection. The results of treatment were complete preservation of vision except in one child from the country which was admitted to hospital 22 days after birth with one eye irreparably damaged before effective treatment could be administered. The loss of vision which eventuated in this child was preventable; it had been under observation for 10 to 12 days but appropriate treatment had not been carried out.

Ophthalmia
Neonatorum.

We are of opinion that every case of suspected ophthalmia should be looked on as an emergency case and admitted to hospital. The incidence of this condition is still much too high. With our present knowledge of how to prevent ophthalmia we are forced to conclude that, if it eventuates, either (1) the instillation of the eyes was not carried out efficiently, or (2) that it was not practised. Midwives are compelled to practice it and it would not be amiss if the same conditions were imposed on the medical profession.

This gonococcal infection occurs in children under 14 years of age and was found in 20 patients; all were admitted to hospital largely because it is a most difficult condition to nurse and to eradicate, and still more so with a view to preventing the risk of other children of the same age being infected.

Vulvo-
Vaginitis.

Laboratory Work.

All the laboratory work has been carried out in the Royal Infirmary under the direction of Dr. Logan. The number of specimens examined was 54,153. The Venereal Disease Clinics in the City were responsible for sending 46,606; 6,258 came from other wards in the Royal Infirmary, 672 from Corporation Hospitals and Departments, and 617 from general practitioners. This large volume of work is an integral part of, and is of incalculable value to, the Venereal Diseases Scheme, and the same high standard of work has been maintained as in previous years.

Treatment.

The methods of treatment which have been used in previous years have been continued. Very few new preparations were tried as, on account of the economic situation, every effort was made to reduce the costs. There has been no false economy as far as the administration of intensive treatment was concerned in the case of syphilis, while in the case of gonorrhœa all patients were kept under observation for a sufficiently long time and tested in every possible way to establish certainty of cure. Good results continue to be obtained from the intravenous administration of tryparsamide in early neurosyphilis and even in cases of established disease. Treatment by the inoculation of malaria blood was used in selected cases of neurosyphilis, and the promising results which were previously reported have been confirmed by longer observation.

At present, early and efficient treatment is certainly our best method of preventing the spread of disease. These remarks are applicable especially to inherited syphilis, ophthalmia neonatorum, and vulvo-vaginitis.

End Results of Treatment.

After undergoing rigid tests of cure, 3,961 patients were discharged during the year. At the end of 1931, 4,176 patients were still under observation and treatment, while 786 patients had been transferred to other centres in the country.

Costs of Treatment.

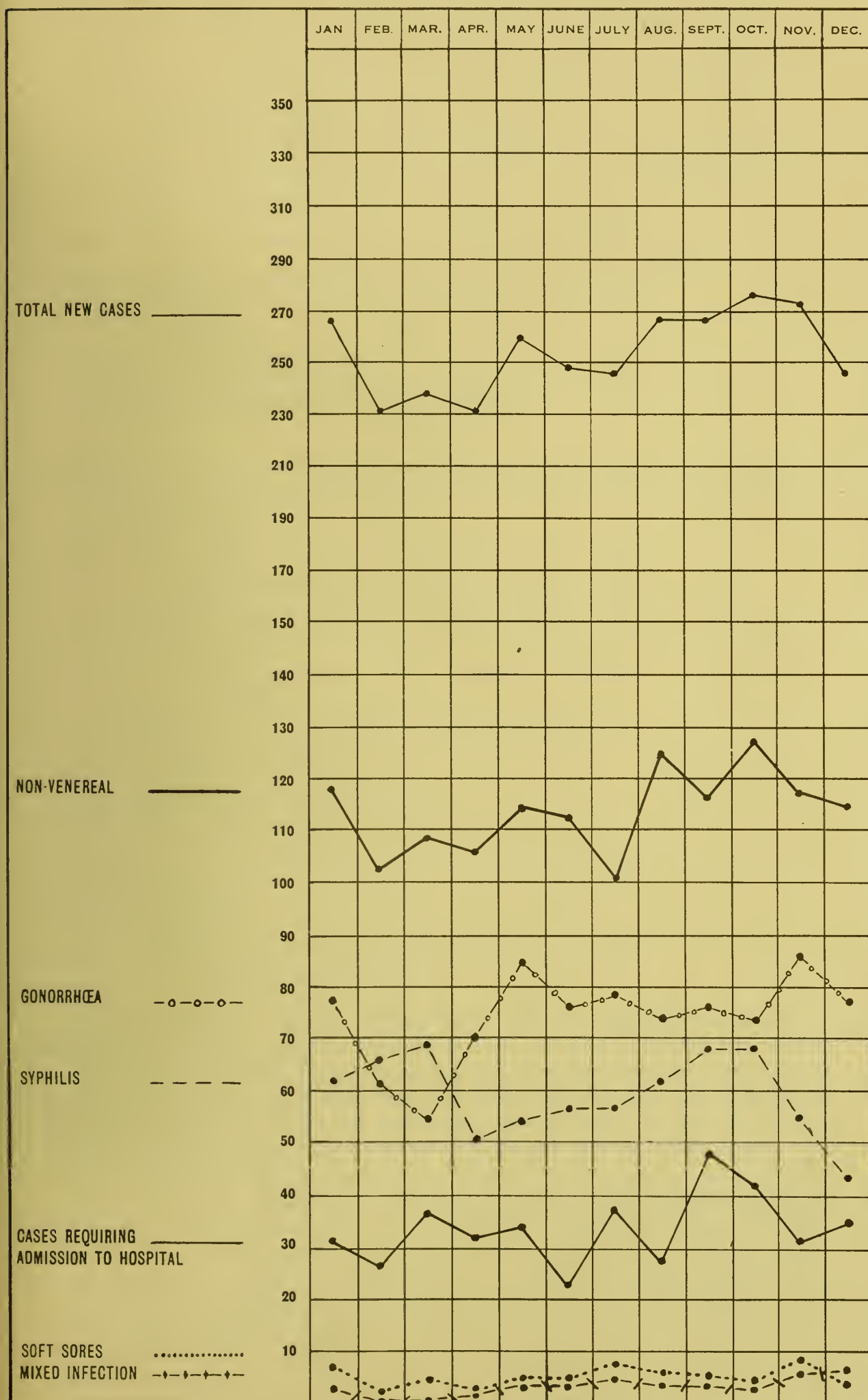
The total expenditure on the Venereal Diseases Scheme was £23,639. This cost covers everything in connection with a service which provides for patients not only from Edinburgh, but also from East, West, and Midlothian, and other local authorities which participate in the Scheme. These areas have a population of about one million. The total annual cost is approximately £2, 8s. 7d. per case of venereal disease. Considering the cost of the drugs which are necessary and the long continued treatment which is insisted on in every case of syphilis, and further, that all modern methods of treatment are employed in gonococcal infection, while at the same time close on 80 per cent. of the patients continued with treatment until they were considered free from infection, the cost of this branch of curative and preventive medicine is not unduly high. The cost is augmented by the proportionately large number of cases which require to be hospitalised. There are in addition an appreciable number of cases from local authorities who do not contribute to the V.D. Scheme or pay directly for their patient's care and maintenance; and yet, so far as we can ascertain, the annual cost per patient compares favourably with that of other local authorities.

Value of Treatment.

The actual return for this therapeutic work, which is also preventive, is not always immediately apparent. It is becoming evident in the decrease in the cases of inherited syphilis under one year of age, and in the next few years it will be still more evident in the reduction of the number of blind children from ophthalmia, keratitis, etc., which will require admission to and education in Blind Schools. The Advisory Committee on the Welfare of the Blind in a recent report suggests that the lessening of the number of persons who become blind in the early years of life indicates that the measures in operation for the prevention of infantile blindness are proving successful. Efficient treatment of venereal disease is one of the major measures in operation for this purpose. Further, there is evidence that the number of admissions to mental hospitals of persons, whose mental condition is due to untreated venereal disease, has decreased appreciably in the last few years. In indirect ways such as these, the expenditure on the treatment of venereal diseases is giving a definite return in the field of preventive medicine. As direct evidence of the influence of treatment on the birth of healthy

COMPARATIVE INCIDENCE OF TYPES OF VENEREAL DISEASE

(ROYAL INFIRMARY VENEREAL DISEASES CLINIC)



children, on the preservation of infant life, on the prevention of the death of children before or soon after birth, and on the reduction in the number of diseased children, the following figures collected from the clinics afford an interesting comparison:—

TABLE I.—The effect on the offspring of UNTREATED SYPHILIS in Pregnancy.

300 mothers under observation 1921-1928 and suffering from untreated syphilis had 1,029 pregnancies.		
293 pregnancies ended in death of the child before birth	.	= 28.4 per cent.
736 pregnancies resulted in living children.		
267 of these 736 live-born children died before the age of 5 years	.	= 36.2 „
216 of the 469 children who survived suffered from inherited syphilis	.	= 46.5 „
Total number of children who died	560	= 54.4 „
Total number of healthy children from 1,029 pregnancies	253	= 24.5 „

TABLE II. The effect on the offspring of TREATMENT for SYPHILIS during Pregnancy, as shown in a series of 121 antenatal cases treated from 1st January 1931 onwards and observation to date.

121 mothers, 105 of whom were treated before the seventh month of pregnancy, and 16 from the seventh or later.		
9 pregnancies ended in death of the child before or just after birth	.	= 7.4 per cent.
(8 of these mothers had not received sufficient treatment.)		
4 pregnancies in which death of the child was due to obstetric complications	.	= 3.3 „
108 pregnancies ended in living children	.	= 89.2 „
Of these 108 living children —		
98 had no evidence of syphilis on their body or in their blood	.	= 90.8 „
10 gave a positive blood reaction, but had no other evidence of syphilis	.	= 9.2 „
(in 8 of these 10 the mothers had not received sufficient treatment).		

In the first table, dealing with untreated maternal syphilis, the death-rate in children is over 50 per cent., the majority of which occurred in the first year of life. In the second table the death-rate in cases treated efficiently before the seventh month of pregnancy is less than 5 per cent., while if we include all cases given any antisyphilitic treatment and obstetric deaths, the death-rate is 10.7 per cent. In Table II. the percentage of children born healthy, as a result of treatment, with no evidence of inherited syphilis even in their blood, is 90 per cent. This figure is in striking contrast with that of Table I. where the percentage of children born healthy from untreated mothers is only 24 per cent. The series of cases in Table II. is admittedly small, but we have no doubt that the investigations now being carried out in a larger series will substantiate these percentages. An analysis of the results (Table III.), in the few untreated cases of maternal syphilis admitted in the past year to the Maternity Hospital at the time of their confinement, tends to confirm this and shows that the mortality and morbidity from inherited syphilis is still high if antenatal treatment is not administered to the mother.

TABLE III.

Of 13 infected mothers admitted at commencement of labour,		
6 pregnancies ended in death of child	.	= 46·0 per cent.
3 pregnancies ended in children with severe syphilis	.	= 23·0 „
4 pregnancies ended in apparently healthy children, but in 2 the blood gave evidence of latent disease.	.	= 30·9 „

The results in this table are not dissimilar from those in Table I. and show the serious loss of infant life which is largely preventable.

The problem of how to secure the continued attendance of patients at treatment is still the most difficult part of our work. During the year 23 per cent., representing 829 patients, defaulted. An appreciable number of these patients were still infective. The economic situation has not made it any easier to follow up these persons, as many of them move from place to place looking for work. It has also influenced the attendance of patients from a distance who find difficulty in coming to hospital as often or as continuously as they should because of the expense in travelling. While we are authorised to pay part of their travelling expenses, there are many who are averse to their ailment being divulged to the public health authority in their area. It would be more in accordance with the confidential nature of the scheme if, after due enquiry into their circumstances, the fares of these patients could be refunded at the clinic. Local authorities, however, are averse to this system.

Every male patient who ceases attending is written to and urged to resume treatment. Female patients and children are visited in their homes by a nurse attached to the administrative staff, and every effort is made by arranging suitable hours for attendance and other matters to make this easier for the patient, and to impress on them, and especially on the parents of children, the need for continued treatment. Of over 800 patients whose homes the nurse has visited, 671, that is 83 per cent. returned to the clinics to resume treatment. It was not possible to trace 82 of the patients. In the course of this work close on 3,000 visits have been paid to homes, and many of the patients have been interviewed at the Central Offices.

This follow-up work by home visitation is of undoubted service to any V.D. Scheme. It appreciably reduces the defaulter rate, and thus lessens the number of contagious and infectious cases in the community. In this work we have received, as previously, loyal assistance from social workers and agencies in the City, from the almoners of the Royal Infirmary, and from the staff of the Public Assistance Department.

Of itself this work does not give so good a return as it would if hostel accommodation of the type suitable for girls who require supervision and treatment over long periods was available. In Edinburgh at present little if anything can be done with many infected young women other than to relieve them of their suffering. It is not the primary duty of a clinic or its workers to alter and direct into right lines the moral and the mental outlook of these patients. The staff and those engaged in follow-up work can assist in doing so, and could do more, if they had available in the city, hostel accommodation in which, for a time at least, these girls could be supervised and brought under the influence of social workers and religious bodies. These girls form quite an appreciable number of the 20 per cent. of patients who continue to spread infection, and measures along social lines such as I have suggested, or other administrative methods of dealing with them, should and must be thought of.

This Dispensary treats chiefly members of the Mercantile Marine and patients living near this locality. There were 270 new patients; these and the patients still under treatment at the end of 1930 paid a total of 13,701 visits during 1931.

Percentage
continuing at
treatment
until
considered
cured.

Follow-up
work.

Hostel
Accommod-
ation.

Seamen's
Dispensary,
Leith.

There is no doubt that this Centre would be utilised more freely by the inhabitants of Leith if it were situated inside Leith Hospital. Apart from its position close to the docks, it would lose nothing of its usefulness to seamen for whom it was chiefly intended if it were attached to a general hospital.

A member of the V.D. Staff has attended once weekly at the Royal Blind School to examine new admissions and administer treatment to those known to be suffering from inherited syphilis. The total number of children examined was 175, and altogether 526 treatments have been administered during 1931. The Superintendent of the School has given great assistance in investigating the causes of blindness and he has expressed his appreciation of the therapeutic work which is being done in the interests of these children. Treatment of Blind Children.

The members of the medical staff have, as in previous years, had every assistance and willing help from the honorary staff of the Royal Infirmary in investigating and treating V.D. patients who suffered from other intercurrent illnesses. There has been no difficulty in transferring sick persons to the ward best suited for their treatment in the medical, surgical, or special departments. This co-ordination of work is in the best interests of the patients and is of value in preventive medicine. There has been close co-operation between the Child Welfare Department and the activities of the V.D. Scheme, in the Maternity Hospitals, and in the after-care of cases of inherited syphilis. This co-ordination avoids overlapping of work, is in the best interests of patients, and has much to commend it. Co-operation with Public Health Departments and Hospital Departments.

The series of tables and diagram added to this report show in tabular form the work of the year. Statistical Tables.

The amount of infective disease which has been examined and treated during 1931 is evidence of the arduous work demanded of the medical, nursing, and clerical staff. The conditions under which they are working in the Royal Infirmary are far from ideal either from the point of view of the health of the staff or from the point of view of attracting patients. Working as the staff are under difficult conditions, the number of patients dealt with, the attendance rate, and the low defaulter rate, are a tribute to their interest in, and to the excellence of, their work. The handling and treatment of patients suffering from venereal disease is difficult work, and I desire to bring to your notice the loyal assistance which I have had from every member of my staff. Medical, Nursing, and Clerical Staff.

DAVID LEES, D.S.O., M.A., M.B., D.P.H., F.R.C.S., F.R.C.P.(E.),

Clinical Medical Officer,

Edinburgh Corporation Venereal Diseases Scheme.

EDINBURGH CORPORATION VENEREAL DISEASES SCHEME.

ROYAL INFIRMARY CLINIC.

REPORT FOR THE YEAR ENDING 31st DECEMBER 1931.

Number of New Cases Attending :—

	EDINBURGH.		OTHER AREAS IN SCHEME.		OTHER AREAS OUTSIDE SCHEME.		AREAS OUTSIDE SCOTLAND.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
January . . .	146	57	28	12	18	5	...	...
February . . .	115	65	24	3	14	8	1	...
March . . .	125	40	27	16	18	11	...	...
April . . .	118	36	25	10	25	16	...	...
May . . .	134	57	24	10	21	13	1	...
June . . .	126	49	23	10	27	9	3	2
July . . .	147	48	17	5	25	4	1	...
August . . .	137	60	26	13	17	12	3	1
September . .	138	46	26	19	25	9	5	...
October . . .	145	47	32	11	16	18	4	2
November . . .	141	55	20	8	30	15	2	...
December . . .	117	51	30	13	22	12	2	...
Totals . . .	1589	611=2200	302	130=432	258	132=390	22	5=27

EDINBURGH	2200
Other Areas in Scheme	432
Other Areas outside Scheme	390
Areas outside Scotland	27

Grand Total 3049

Of the New Cases Attending there were :—

EDINBURGH.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . . .	25	51	4	1	65	17	14	2	24	
February . . .	27	38	...	...	50	26	9	...	30	
March . . .	31	36	4	...	54	14	4	...	22	
April . . .	27	37	1	1	52	8	5	...	23	
May . . .	18	50	3	2	61	23	8	2	24	
June . . .	18	43	4	2	59	24	9	...	16	
July . . .	28	53	5	3	58	15	10	1	22	
August . . .	22	49	4	1	61	18	9	1	32	
September . .	22	48	2	4	62	17	5	...	24	
October . . .	22	45	4	3	71	16	5	...	26	
November . . .	21	51	5	2	62	14	10	1	30	
December . . .	17	39	4	1	56	12	14	1	24	
Totals . . .	278	540	40	20	711	204	102	8	297	

OTHER AREAS IN SCHEME.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . . .	8	8	1	...	11	5	...	...	7	
February . . .	5	8	2	...	9	1	...	...	2	
March . . .	9	8	...	...	10	7	1	...	8	
April . . .	4	13	1	...	7	2	1	...	7	
May . . .	5	10	...	...	9	2	3	...	5	
June . . .	5	8	...	...	10	4	1	...	5	
July . . .	3	6	3	...	5	1	...	...	4	
August . . .	8	9	1	...	8	2	3	...	8	
September . .	7	8	1	...	10	6	2	...	11	
October . . .	12	12	...	...	8	5	3	...	3	
November . . .	4	11	1	...	4	3	2	...	3	
December . . .	4	11	...	4	11	7	...	...	6	
Totals . . .	74	112	10	4	102	45	16	...	69	

OTHER AREAS OUTSIDE SCHEME.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . . .	3	5	1	...	9	3	...	...	2
February . . .	1	5	...	...	8	5	1	...	2
March . . .	4	5	...	...	9	4	1	...	6
April . . .	6	7	...	1	11	3	7	...	6	
May . . .	5	10	...	...	6	1	3	...	9
June . . .	2	12	...	...	13	3	...	...	6
July . . .	9	8	...	...	8	...	1	...	3
August . . .	6	2	2	...	7	4	1	...	7	
September . .	11	8	2	...	4	4	1	...	4	
October . . .	5	3	...	...	8	6	4	...	8
November . .	7	10	3	1	9	6	1	1	7	
December . .	2	12	...	...	8	1	2	...	9
Totals . . .	61	87	8	2	100	40	22	1	69	

AREAS OUTSIDE SCOTLAND.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
January . .	...	...	...	...	...	...	...	...	...
February . .	...	...	...	...	1	...	...	...	...
March . .	...	...	...	...	...	...	...	...	...
April . .	...	...	...	...	...	...	...	...	...
May . .	...	...	1	...	...	...	...	...	...
June . .	...	2	...	...	1	...	1	...	1
July . .	...	1	...	...	...	...	...	...	...
August . .	1	1	...	...	1	...	...	...	1
September . .	...	4	...	...	1	...	...	...	...
October . .	...	1	...	1	2	1	...	...	1
November . .	...	1	...	...	1	...	...	...	...
December . .	1	...	...	...	1	...	...	...	...
Totals . .	2	10	1	1	8	1	1	...	3	
Grand Total . .	415	749	59	27	921	290	141	9	438	
2171					878					
3049										

AGE PERIODS.

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
Under 1 yr.	. . .	...	...	...	...	11	2	...	29
1-5 yrs.	. . .	...	...	...	...	7	2	...	36
5-15 yrs.	. 17	...	...	...	11	23	2	...	56
15-25 yrs.	. 63	236	25	8	225	57	67	2	120	
25 yrs. up	. 335	513	34	19	685	192	68	7	197	
<hr/>										
Totals	. 415	749	59	27	921	290	141	9	438	

Admissions to Hospital:—

	MALES.					FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
Edinburgh .	61	38	6	8	21	31	23	5	2	
Other Areas in Scheme .	17	23	2	2	10	20	9	...	...
Areas outside Scheme .	27	38	4	...	14	23	13	1	2	
Areas outside Scotland .	2	2	1	...	...	...	...	...	...
Totals .	107	101	13	10	45	74	45	6	4	
	276					129				

Discharges from Hospital :—

MALES.						FEMALES.				
	Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Inf.	No V.D.	Syphilis.	Gonorrhœa.	Mixed Inf.	No V.D.	
Edinburgh .	56	45	5	8	21	34	26	4	1	
Other Areas in Scheme .	18	23	3	...	9	17	7	...	1	
Areas outside Scheme .	28	32	3	2	16	24	13	1	2	
Areas outside Scotland .	2	2	1	...	...	...	...	...	...
Totals .	104	102	12	10	46	75	46	5	4	
	274					130				

SPECIAL TREATMENT ADMINISTERED.

Number of Intravenous and Intramuscular Injections given :—

	Neokharsivan.	Sulfarsenol.	Bismuth.	Other Drugs.	Total.
January	745	463	2,076	886	4,170
February	798	483	2,111	1,109	4,501
March	944	577	2,194	1,110	4,825
April	944	598	2,086	1,080	4,708
May	956	540	2,047	1,056	4,599
June	945	592	2,077	1,017	4,631
July	849	523	1,948	1,012	4,332
August	814	401	1,986	971	4,172
September	813	361	2,100	884	4,158
October	887	436	2,284	848	4,455
November	775	383	2,046	726	3,930
December	793	325	2,070	705	3,893
Totals .	10,263	5,682	25,025	11,404	52,374

PATHOLOGICAL WORK.

Number of Specimens examined :—

	Wass.	C.S.F.	G.C.F.T.	D.Gs.	Smears.	Others.	Total.
January	1,330	61	299	36	992	3	2,721
February	1,165	46	254	38	868	8	2,379
March	1,244	44	350	42	1,091	17	2,788
April	1,296	64	422	48	944	20	2,794
May	1,438	50	436	56	1,068	12	3,060
June	1,086	50	316	42	1,082	14	2,590
July	1,103	63	393	70	946	12	2,587
August	1,261	40	412	76	944	12	2,745
September	1,140	32	361	56	919	18	2,526
October	1,249	37	379	48	990	16	2,719
November	1,035	50	363	60	1,085	30	2,623
December	1,039	24	381	53	1,344	17	2,858
Totals .	14,386	561	4,366	625	12,273	179	32,390

Total Attendances at the Clinic for Routine Dressings, etc.:—

	Males.	Females.	Total.
January	7,609	1,642	9,251
February	7,299	1,544	8,843
March	7,573	1,819	9,392
April	6,506	1,942	8,448
May	6,596	1,958	8,554
June	7,035	2,430	9,465
July	7,803	1,830	9,633
August	7,422	1,882	9,304
September	6,399	1,752	8,151
October	7,319	1,983	9,302
November	7,494	1,837	9,331
December	7,100	1,858	8,958
Totals .	86,155	22,477	108,632

OTHER TREATMENT CENTRES IN EDINBURGH.

1. Subsidiary Centres for Royal Infirmary.

Number of New Cases					305
Syphilis.	Gonorrhœa.	Mixed Infection.	No. V.D.		
141	52	2	110	=	305
Number of Patients treated in Hospital					168
Total Attendances of Out-patients					3599
Pathological Work—Number of specimens examined					2626
Special Treatment administered—Number of Injections given					4797

2. Hospital for Women and Children and Subsidiary Centres.

Number of New Cases					898
Syphilis.	Gonorrhœa.	Mixed Infection.	No. V.D.		
116	371	34	377	=	898
Number of Patients treated in Hospital					219
Total Attendances of Out-patients					8801
Pathological Work—Number of specimens examined					6644
Special Treatment administered—Number of Injections given					3970

3. Royal Maternity Hospital.

Number of New Cases					744
Syphilis.	Gonorrhœa	Mixed Infection.	No. V.D.		
267	177	14	286	=	744
Number of Patients treated in Hospital					214
Total Attendances of Out-patients					2198
Pathological Work—Number of Specimens examined					3303
Special Treatment administered—Number of Injections given					1049

4. Seamen's Dispensary, Leith.

Number of New Cases					270
Syphilis.	Gonorrhœa.	Soft Sore.	Mixed Infection.	No. V.D.	
37	114	19	5	95	=270
Total Attendances of Out-patients					13,701
Pathological Work—Number of specimens examined					1643
Special Treatment administered—Number of Injections given					1915

DAVID LEES, D.S.O., M.A., M.B., D.P.H., F.R.C.S., F.R.C.P.(E.),

Clinical Medical Officer, Edinburgh Corporation V.D. Scheme.

TREATMENT OF SICK POOR.

REPORT BY MEDICAL SUPERINTENDENT OF HOSPITALS.

I have the honour to submit a Report of the work carried out in the Hospitals for the Sick Poor, for the year 1931.

The Hospitals at Craiglockhart and Seafield Institutions still remain for the present under the care of the Public Assistance Committee pending the reconstruction of Seafield Institution. To allow this reconstruction of the Main House portion of Seafield to be carried out, five wards in the Hospital portion of Craiglockhart Institution had to be cleared of patients in the autumn to admit the inmates disposessed from Seafield Institution. The patients from Craiglockhart were transferred to Craigleith and Pilton Hospitals. By a re-arrangement of the wards, the accommodation at Craigleith was increased from 256 to 271 beds, and by the opening of five new wards at Pilton the accommodation there was increased from 100 to 260 beds.

The total number of occupied beds in Craiglockhart Hospital wards has fallen from 535 in February 1922, to 215 in December 1931. These numbers give some idea as to how this Institution is being gradually cleared of persons requiring hospital treatment.

In recent years the Department of Health for Scotland has discouraged the keeping of children permanently in a Poorhouse. In conformity with this view, a children's admission block was opened in the east wing of Craigleith Hospital. All healthy children of school age and a few of the older toddlers are being transferred to the Children's Home through this department, and all sick and very young children are kept in the hospital wards. This department has, during the past year, been taxed beyond its capacity.

Craigleith Hospital.—There have been no alterations or additions made to the Hospital during the year.

Letters and verbal messages of thanks, and gifts of flowers have been received from patients or their relatives as expressions of their appreciation of the treatment given in the hospital.

It has not been possible to transfer all the acute cases from Craiglockhart or Seafield Hospitals.

STATISTICS FOR THE YEAR, 1ST JANUARY TO 31ST DECEMBER 1931.

		Remaining 1st January.	Admitted.	Discharged.	Died.	Remaining 31st December.
Adults	Males . . .	44	150	117	21	56
	Females . . .	59	215	185	16	73
Children	Males . . .	64	346	333	10	67
	Females . . .	58	328	330	5	51
Totals . . .		225	1039	965	52	247

Number of Cases treated 1,264

Hospital treatment was necessary in all cases admitted except for infants and very young children, about 50 per cent. of whom were healthy. The patients treated were chiefly medical cases, all major surgery being still carried out at Craiglockhart Hospital.

TABLE TO SHOW THE RESULTS OF TREATMENT OR TERMINATION OF ILLNESS.

Cured	341	Not improved	518
Improved	106	Died	52
		— 1,017	

More than one-third of the patients have been cured or improved. The large number of cases apparently remaining stationary under the heading "not improved" is due to the number of chronic medical cases and healthy children treated.

CAUSES OF DEATH.

	Adults.	Children.
Diseases of Heart and Blood Vessels	14	0
„ Brain and Nerves	7	3
„ Lungs	6	3
„ Digestive Organs	4	0

In addition cancer tumours caused 5 deaths, and among children congenital disabilities accounted for 9 deaths.

Total Beds	271
Average number of Occupied Beds	221
Average cost per day, patient's food stuffs only	9½d.
Average length of stay, in days, per patient	44

MINOR SURGERY.

Minor Operations	total 28
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21 of these operations were for the removal of tonsils and adenoids in children. A general anæsthetic was administered in 24 operations and 4 operations were performed under local anæsthesia.

DENTAL DEPARTMENT—Patients treated, 56. These include 50 children and 6 adults. 159 extractions were completed.

SPECIAL DEPARTMENTS.

MATERNITY DEPARTMENT.—Cases treated	85
„ admitted	83
„ discharged	84
Deliveries (54 normal, 6 abnormal)	60
Post-partum puerperal admissions	16
Deaths	1

There have been no cases of puerperal sepsis during the year.

Beds have been kept available for the admission of antenatal cases from the Royal Maternity and Simpson Memorial Hospital since the end of March, but no cases were transferred.

SPECIAL DIET DEPARTMENT.—

Remaining at 1st January	12	Transferred to other Wards	11
Admitted	35	Remaining at 31st Dec.	11
Discharged	20	Cases treated during 1931	47
Died	5		

Of these patients, 3 were cured, 8 greatly improved, and in 5 cases the condition remained stationary.

Of the total cases, 40 per cent. were treated for diabetes.

A Follow-up Department, which patients might attend as out-patients for advice on their diets, if it could be arranged, would greatly shorten the length of stay of such patients in Hospital for treatment.

MASSAGE AND ELECTRO THERAPY DEPARTMENT.—Total patients treated, 247, of which 51 were cured and 135 relieved.

During the year, 1,948 treatments were given.

Massage	856	Ionisation	23
Galvanism and Faradism	407	Ultra Violet Artificial	
Diathermy	374	Sunlight	288

East Pilton Hospital.—During the summer, five one-storey brick huts were converted into five very serviceable wards for 20 beds each.

This Hospital has been reserved for medical cases of the more chronic type.

STATISTICS FOR THE YEAR 1ST JANUARY TO 31ST DECEMBER 1931.

Remaining 1st January.	Admitted.	Discharged.	Died.	Remaining 31st December.
95	205	29	31	240

Total number of beds	260
Average number of occupied beds	145
Average length of residence	130 days.

RESULT OF TREATMENT OR TERMINATION OF ILLNESS.

Cured	0	Not improved	15
Improved	14	Died	31

CAUSES OF DEATH.

Senility	14	Diseases of Kidney	1
Diseases of Brain and Nerves	7	„ Heart and Blood Vessels	2
Cancer or other tumour	3	„ Lungs	2
Diseases of Digestive Organs	2		

These elderly patients still enjoy being on the ground floor wards, which allow them to get out of doors so readily during fine weather.

Craiglockhart Hospital.—The number of patients treated from 1st January to 31st December 1931 was as follows :—

Men	1,288
Women	821
Children (Surgical Cases and Mental Defects)	31
— Total	2,140

During the year 100 operations were performed, of these 47 were major operations and 53 minor. 74 of the operations required a general anæsthetic and 26 a local anæsthetic.

Seafield Hospital.—The number of patients treated from 1st January to 31st December 1931 was as follows :—

Men	224
Women	133
— Total	357

J. W. KEAY, M.D., F.R.C.P., D.P.H.,
Medical Superintendent of Hospitals.

MENTAL HEALTH SERVICES.

BANGOUR MENTAL HOSPITAL.

REPORT BY MEDICAL SUPERINTENDENT.

I have the honour to submit the Annual Report of Bangour Mental Hospital for the year 1931.

General Statistics.—The following statement sets forth the changes in the population of the Hospital during the year :—

SHOWING THE ADMISSIONS, RE-ADMISSIONS, DISCHARGES AND DEATHS DURING THE YEAR 1931.

	M.	F.	Total.	M.	F.	Total.
In the Hospital, 1st January 1931	513	519	1,032			
Absent on Probation	2	1	3			
Absent on Pass	10	3	13			
Total on Register (including 63 voluntary)				525	523	1,048
Cases admitted (including 99 voluntary)—						
First Admissions	125	125	250			
Re-admissions	46	47	93			
Total Cases admitted during the year				171	172	343
Total Cases under care				696	695	1,391
Cases discharged (including 78 voluntary)—						
Recovered	67	71	138			
Relieved	32	45	77			
Not improved	6	1	7			
Died	60	44	104			
Total Cases discharged and died during the year				165	161	326
Remaining in the Hospital, 31st Dec. 1931	518	529	1,047			
Absent on Probation	3	3	6			
Absent on Pass	10	2	12			
Total on Register (including 84 voluntary)				531	534	1,065
Average daily number on Register during the year				526	535	1,061
*PERSONS under care during year				674	681	1,355
*PERSONS admitted				149	158	307
*PERSONS recovered				62	68	130
Transferred to other Hospitals				17	16	33
Transferred from other Hospitals				17	10	27

* PERSONS, *i.e.*, separate persons in contradistinction to cases which may include the same individual more than once.

Admissions.—The total number of cases admitted during the year was 343, *i.e.*, 24 less than the previous year's admissions and 3 more than the annual average for the last quinquennium. The total of 343 is divided almost equally between the sexes, the figures being 171 males and 172 females.

In proportion to the total capacity of the Hospital the number of admissions is high. Being recent and acute cases, they entail exacting demands not only on the accommodation but also on the nursing and medical resources of the Hospital generally. It is

probable that this burden will be lightened in years to come as alternative methods of dealing with mental disorder are developed, for it does not follow that every attack is so fraught with danger as to necessitate hospitalisation. No mental hospital nowadays is complete without an out-patient clinic at which guidance and advice can be given to those who require them. If such a department, properly organised and adequately staffed, exists, and if sufferers from this most distressing of all maladies seek advice at a reasonably early stage, experience shows that hospitalisation can in many instances be successfully averted. The usefulness of such a clinic is greatly enhanced by the provision of beds, preferably in a general hospital, where expert advice in every department of medicine and of surgery is available. This latter development may not materialise in the immediate future in Edinburgh but it is an objective which ought to be kept steadfastly in view. As for the former, active steps to create such a clinic under the Corporation have already been taken, and a start should be possible early in 1932.

There are two additional sources which tend to swell the stream of admissions. In many instances mental defectives are certified insane and as such admitted to Bangour. Hitherto this has been the only course available, but it runs counter to the whole trend of informed opinion on the needs of the defective. One of the major objects of the Mental Deficiency Act (1913) was to put an end once and for all to the vicious system of grouping the defective either with the insane or with the criminal. With his child-like capacity for imitation and his uncritical suggestibility in the presence of a more dominant personality, the defective in an unfavourable environment is apt to absorb more evil than good. The Act rightly envisaged a new order of things in which emphasis would be laid on what is really of cardinal importance, viz., the training in a special institution or otherwise of the defective's capacity, limited though that is, to the highest point possible for him. The extension of the Mental Defective Colony at Gogarburn will in the future fill a distinct gap in the City's resources and at the same time lessen the strain on Bangour. In return for this relief, a higher standard of individual treatment, a more satisfactory classification of patients and a reduction in the apparent chronicity of mental disease should follow.

The other source is the increasing tendency to place under care in a mental hospital so many cases of senile decay. This is not a local phenomenon; on the contrary it has been a matter of comment in many areas. By some it is regarded as a sign of the times—another evidence of the decline of that filial piety which marked the domestic relationships of a former day. Others would see in it a tribute to the modern mental hospital and an indication of a changing public attitude towards the hospital. As usual the truth lies in neither extreme. The fact is that in their declining years some do require the special resources of the mental hospital for their proper care, while the needs of others might well be met by some less expensive alternative. It seems almost inevitable that if the present tendency persists, local authorities will have to consider the provision of something in the nature of "Even-Tide Homes" where adequate care and comfort might be provided without all the elaborate and costly machinery of the present-day mental hospital.

One feature of the admissions which is always of special interest is the proportion of patients who enter voluntarily. During the year under review these numbered 99 as against 88 for the previous twelve months. In other words almost 30 per cent. of the admissions were voluntary. Satisfactory though this figure is, it is to be hoped that it will go on increasing, for nothing is so likely to affect the whole tone of the mental hospital for good as the reception of patients whose sole reason for entering is the urgency of their need. It is only right that this mode of entry, so simple but so highly important, should be offered to every one requiring hospital treatment. Too often patients are heard to complain that the chance was not offered them of entering on a voluntary basis.

Condition on Admission.—The two Tables sub-joined show the condition of those admitted :—

	Males.	Females.	Total.
Physical State. — In Fair or Average Physical Condition	64	34	98
In Poor or Indifferent „ „	68	85	153
In Weak, Very Weak or Exhausted „ „	39	53	92
Totals . . .	171	172	343
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Mental State. —			
I. MANIC-DEPRESSIVE PSYCHOSIS—	Males.	Females.	Total.
(a) Manic	13	14	27
(b) Depressive	36	50	86
II. SCHIZOPHRENIC AND ALLIED STATES—			
(a) Schizophrenia	17	24	41
(b) Paraphrenia	10	17	27
(c) Paranoia	6	...	6
III. ORGANIC PSYCHOSES—			
(a) General Paralysis	13	7	20
(b) Specific Psychosis other than General Paralysis	5	2	7
(c) Arterio-sclerotic	14	13	27
(d) Post-Encephalitic	2	...	2
(e) Toxic	17	8	25
(f) Associated with General Diseases . . .	9	14	23
IV. INSANITY WITH EPILEPSY	5	3	8
V. PSYCHONEUROSES	3	5	8
VI. OLIGOPHRENIA	21	15	36
Totals	171	172	343

As usual, the physical condition of the admissions was in the great majority of cases well below par. In 92 cases there was extreme exhaustion, a state of affairs which is far from satisfactory. In some instances patients suffering from increasing debility are kept at home, receiving little or no real treatment, all because of the foolish dread of the asylum. As a result their very lives are jeopardised and their mental and physical rehabilitation unnecessarily delayed. “Early treatment” in this connection is not a mere catchword ; it is a real necessity.

The second Table shows that no less than 113 of the admissions were cases of Manic-Depressive Insanity. The interesting fact here is that this is the form of mental disease which, besides occurring most commonly, is generally the one which offers the best chance of complete recovery. Common though it is, and profound though its effects may be, it is often unnoticed till some dramatic event compels attention. Of the 86 admissions showing the depressive form of the disease no fewer than 52 had attempted to take their own lives before coming to the Hospital, while most of the remainder had at least contemplated this way of escape from an intolerable situation. These figures point the moral : that even the most benign of mental diseases are fraught with tragic possibilities, and that those who counsel delay, relying on an ill-founded optimism that “things will come all right,” are incurring risks which the circumstances can never justify. With the establishment of an out-patient clinic in association with the Hospital, there will be less excuse than ever for neglecting such cases.

The Schizophrenic group, while totalling only 74 is of pressing importance seeing that it is from these the “chronic residue” is so largely drawn. Here is one of the

most baffling problems in the whole range of psychiatry. The current view as to causation is that they develop in a peculiar type of personality—the shy, sensitive, day-dreamer—and that habitual mal-adjustment to the real demands of life, in such a personality, leads on to complete alienation. To some extent this hypothesis is supported by a study of their antecedent history, but it looks as if the time had now arrived for a large scale investigation into this matter. In such an enquiry the teacher and the psychiatrist together could achieve more than either alone, and now that their activities have been brought under the control of a single authority, this field might offer scope for a fruitful piece of joint research. The seriousness of the situation and the need for research are alike shown by the fact that, on a rough estimate, not less than 60 per cent. of the chronic population of our mental hospitals are of this type. They constitute the real burden of mental disease on the resources of the locality.

Among the other forms of mental disease it will be noted that insanity associated with alcoholism no longer has a place, though in former days it was believed to make a formidable contribution to the incidence of insanity. True alcoholic insanity nowadays in the classes for which Bangour caters is a *rara avis*. Cases are occasionally seen in which alcoholic indulgence is admitted, but investigation almost invariably shows that the addition is merely symptomatic of some more fundamental disability. Whatever this change is due to, whether it be the fruit of education, the result of providing cheap forms of healthy amusement, or the excessive cost of drink, the improvement is indeed a welcome one.

Another social evil which fortunately figures less prominently than formerly as a cause of mental disorder is specific disease. Even when it does occur now, how different are the prospects as compared with ten or fifteen years ago! Specific disease and alcoholism often hunted in couples. It is a cause for rejoicing that they are loosening their grip together.

The Discharges.—The number of cases discharged was 222, classified as follows :—

	Males.	Females.	Total.
Recovered	67	71	138
Relieved	32	45	77
Not improved	6	1	7
Totals	105	117	222

The percentage of cases discharged as recovered calculated on the total number admitted was 40.2.

The following Table gives the length of residence in those discharged as recovered :—

	Males.	Females.	Total.
Under 1 month	7	12	19
From 1—3 months	30	24	54
„ 3—6 „	12	15	27
„ 6—9 „	8	4	12
„ 9—12 „	4	3	7
„ 1—2 years	3	8	11
„ 2—3 „	1	2	3
„ 3—4 „	1	1	2
„ 4—5 „ . . . . .	...	...	...
„ 5—6 „	1	...	1
„ 6—7 „ . . . . .	...	...	...
„ 7—8 „ . . . . .	...	1	1
„ 8—9 „ . . . . .	...	1	1
Totals	67	71	138

It will be seen that 130 of the 138 recoveries took place within 2 years of the date of admission, and that it is the exception rather than the rule for recovery to occur after that period has lapsed. Such generalisations, however, are not without danger, as mental disease after all is as varied in its manifestations and its potentialities as human nature itself. They can do nothing more than indicate a general tendency; they cannot seal the fate of an individual.

The Deaths.—The deaths numbered 104, the principal causes being :—

	Males.	Females.	Total.
Circulatory Diseases	18	22	40
Diseases of the Nervous System	21	9	30
Tuberculosis (various forms)	7	5	12
Respiratory Diseases	5	3	8
Cancer	4	1	5
Other Causes	5	4	9
Totals	60	44	104

Calculated on the average daily number of patients resident during the year, the percentage of deaths was 9.8, as compared with 9.2, the annual average for the previous five years.

In 41 instances the cause of death was ascertained by post-mortem examination.

Temporary Buildings.—These villas, each accommodating 50 patients, were intended to serve as temporary structures, but were never in fact replaced by more permanent buildings. Originally they were five in number but a few years ago one was completely destroyed by fire. In August of this year a similar fate almost overtook another one. It was possible in this case to confine the damage to the outer walls (built of wood and corrugated iron) and the roof, and it is now proposed to reconstruct the walls in brick, retaining the floors and other internal structures which have suffered little or no damage. This incident directs attention to the serious fire risk involved in the continued use of these buildings, and it is strongly recommended that the rebuilding of the remaining three villas should be undertaken as soon as is possible without displacing the working of the Hospital.

Following upon this outbreak, the opportunity was taken to overhaul the whole fire equipment in the Hospital. While improvements have been made, it is considered that owing to the “scatter” of the various villas a motor fire engine should be provided. This matter is at present under consideration. It is a pleasure to acknowledge the willing help given in this reorganisation by the Firemaster and Officers of the City Fire Brigade.

Fortunately the fire occurred at an hour when the patients were all out-of-doors, and so no risk to life or limb was involved.

The Staff.—In previous reports attention has been drawn to the need for extending the accommodation for the female nursing staff. This subject has again been given careful consideration and it is probable that before another Report is due building operations will have commenced. The existing state of affairs is unsatisfactory from every point of view and until it is remedied the proper organisation of the nursing staff will be impossible.

What it is hoped to do for the female staff has already been done, in part at least, for the male nurses by the opening of a mess-room where the men can have their meals in comfort away from their wards. The mess-room was formerly the Occupation Therapy Centre, and required only slight alterations to fit it for its new purpose. It lies only a few yards from the main kitchen in the centre of the Village, so that from every point of view it is most conveniently situated. Here the men have their meals in company instead of, as formerly, in isolated little groups in the various wards. The re-arrangement makes for economy in labour and in cost, and besides that it means

much to the comfort of the men themselves. Married men and others living out are encouraged to make use of the dining-room as well as those boarded by the Hospital. In their case the charge made for meals is just sufficient to cover the cost of material and cooking.

New premises being required for the Occupation Therapy Centre, it was found possible to utilise part of the Massage Department for this purpose. Till recently not only inmates of the Hospital but also cases from the surrounding districts were afforded treatment in this Department. When it was decided to confine the work of the Department to Hospital inmates, there was found to be a good deal of spare accommodation. This has been converted into a most satisfactory Occupational Therapy Centre. In passing it may be said that the sale of some gymnastic equipment fitted up in what is now the Occupational Therapy Centre covered a large part of the cost of equipping the mess-room and transferring the Occupational Therapy Centre to its new quarters.

Staff Training.—It has to be kept in view that the Hospital is a training-school as well as a means of livelihood for the staff. Hitherto the training has been organised in accordance with the requirements of the Royal Medico-Psychological Association of Great Britain, an examining body which for many years has granted certificates of proficiency to all who take the prescribed course and satisfy the Association's examiners. This Certificate, however, does not entitle the nurse to have her name inscribed on the State Register of Nurses, the only portal to the Register being the examination of the General Nursing Council. There is every indication that as time passes more and more stress will be laid on registration, and accordingly every nurse ought in her own interest to aim at a registrable qualification. In future it is proposed to make the certificate of the General Nursing Council the main objective of the training at Bangour. This policy has the advantage that the training given will suffice for either or both certificates, whereas the present system only suffices for one. At the end of the course, the nurse will have the option of presenting herself at either examination. It is expected, however, that the growing advantages of registration will be recognised by the Staff and that without exception they will aim at the more valuable qualification.

The Mental Hospital and the Community.—The month of May 1931 marked the end of the first year's working of the Hospital under a new authority. A year previously control passed from the now extinct District Board of Control and was vested in the Town Council, the Hospital thus becoming part of the Public Health machinery of the City. So far as provision for coping with mental disease is concerned, the change-over means, or ought to mean, something more than the mere substitution of one controlling authority for another. Its real significance lies in the fact that now for the first time in its history the mental hospital is definitely ranged alongside the other defences of the community against the inroads of disease, with all its tragic aftermath of suffering and waste. Hitherto the mental hospital in general has lain open to the taunt that it dealt with the end products of disease and that, standing apart in cloistered seclusion, it did not make the contribution it might have made to the prevention of ill-health. It goes without saying that there are in our mental hospitals large repositories of knowledge and experience in the handling of mental ill-health in all its phases, but these resources unfortunately have seldom been applied to the right end of the problem. For the most part they have served only to lock the door after the horse had been stolen.

Insanity, in its technical sense, is admittedly an adult affliction. But it is equally true that only in exceptional instances does it come as a bolt from the blue. If modern theories of causation are to be believed then its apparently cataclysmic onset is but the end-result of many antecedent circumstances. And just here lies a curious contradiction in practice. For, if this view of mental unsoundness is correct, it should follow that the proper time to intervene is when these causal factors are at work. No provision for the insane, however lavish, will ever compensate for the lack of a persistent effort to cope with the problem at that stage. One has only to consider the comparative disregard for the incidents and accidents that befall the developing

mind with what is already done in relation to physical development in school children to appreciate the lee-way that has to be made up. And mental health must not remain for ever the Cinderella.

The opportunity offered by the unification in control should be taken to establish a mental health service which will in time be comparable to what is already being done in other directions through the public health service. Within its scope will come all the arrangements for ascertaining and dealing with mental defect at as early an age as possible, so that the necessary special training may be begun at the most advantageous point. This will embrace not only institutional care for those who require it, but also, probably with the help of voluntary agencies, methods of assisting those who may with advantage remain under the care of parents or guardians. Regard must also be paid to the needs of those children, who, while not defective, show signs of emotional instability or other indications of future trouble. It must aim at encouraging the earlier treatment of mental ill-health, and must devise alternatives to treatment in a mental hospital for such cases as are suitable. The social implications of the work must be envisaged and provided for, and always its orientation must be towards prevention, if it is to keep its place in line with the other branches of the public health service. Already a tentative beginning has been made in several of these directions, but in future the scope of the service must inevitably expand. As it expands existing machinery must be utilised to the fullest extent, so as to avoid wasteful overlapping.

Personal.—It is appropriate that reference should be made here to the retiral of Dr. Keay, who filled the post of Medical Superintendent at Bangour from its inception till May 1931. Dr. Keay had won for himself a high reputation as a physician and an administrator, and the success of the Hospital depended in large measure not only on his professional attainments but also on his personal qualities. He takes with him into his retirement the best wishes of all who were associated with him in his work at Bangour.

No record of the year's work would be complete without an acknowledgment of the services rendered by the officials and the other members of the Staff. In a year of transition they have met their tasks with a fine spirit of loyalty and co-operation.

W. M'ALISTER, M.A., M.B., Ch.B., F.R.C.P.(E.), D. Psych.(E.).
Medical Superintendent.

GOGARBURN CERTIFIED INSTITUTION.

(For Mental Defectives.)

REPORT BY MEDICAL SUPERINTENDENT.

I have the honour to present the Annual Report of Gogarburn Certified Institution for the year 1931.

General Statistics.—The following are the general statistics, from which it will be observed that there have been few changes in the patient population during the year. The accommodation available for patients has been in full and continuous occupation :—

	Males.	Females.	Total.
Patients on Register at 1st January 1931	72	72	144
Cases admitted during the year	10	4	14
Total number under treatment	82	76	158
Cases discharged	1	1	2
Cases transferred to other Institutions	1	...	1
Cases died	2	1	3
Total cases removed during the year	4	2	6
Number remaining on Register at 31st Dec. 1931	78	74	152

These figures represent an increase of 6 male patients, an increase of 2 female patients, and a total increase of 8 in the patient population for the term under review.

The average daily number of patients on the register during the year was 152.

Medical Statistics.—There were admitted to the Institution, 10 male and 4 female patients, a total of 14 admissions during the year.

The place of origin of the patients admitted was as follows :—

	Males.	Females.	Total.
Admitted direct from their homes	6	...	6
From Craigleith Hospital	1	1	2
From Jordanburn Nerve Hospital . . . . .	...	1	1
From Craiglockhart Institution . . . . .	...	2	2
From Seafield Institution	2	...	2
From Sheriff Court	1	...	1

The general physical condition of the patients admitted was as follows :—

	Males.	Females.	Total.
In fair or average health and condition	1	1	2
In poor or indifferent health and condition	7	1	8
In weak or very weak health and condition	2	2	4

One female patient was found to be pregnant at the time of admission. Thus in 12 cases or 84·9 per cent. of the total number of admissions the standard of general health was definitely below par.

Classification.—The following Table shows the classification and age-grouping of the patients admitted :—

Classification.	10-15.		16-20.		21-25.		26-30.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Imbeciles . . . . .	...	2	...	...	2	...	...	...	2	2
Feeble-minded	3	...	3	2	1	...	1	...	8	2
Totals M	3		3		3		1		10	
Totals F.		2		2		...		...		4

Briefly summarised the table shows that 28·5 per cent. of the patients admitted were imbeciles, and 71·5 per cent. were feeble-minded. No idiots were admitted.

Causation.—So far as could be ascertained the causes of the condition of mental defectiveness were as follows :—

Ante-natal.		Natal.		Post Natal.	
Simple Primary Amentia	9	Birth Injury	1	Hydrocephalus	1
				Epilepsy	1
				Encephalitis	2
Totals	9		1		4

The term “simple primary amentia” is used to connote that group of cases in which the cause or causes productive of the condition of mental deficiency are operative before birth. These causes are believed to have their origin in the transmission from parent to offspring of an impaired developmental capacity, affecting particularly those cells whose ultimate destiny is to form the brain and central nervous system. During the past three years 52 per cent. of all patients admitted to the institution have been

classified in this category, and certain features with regard to them recur with such striking frequency as to be worthy of special note. For example, these patients do not always exhibit the grosser signs of mental defect; on the contrary, the majority of them belong to the higher grades. Some of the more severe forms, on the other hand, may have no known hereditary factor, but may be associated with injury at birth or disease occurring soon after.

Such facts would appear to lend support to the view that heredity does play a part, and an important part, in the causation of mental defect in this particular type of case. It has been truly said that "a corrupt tree cannot bring forth good fruit," and it is probably equally true that the offspring of degenerate human stock will inevitably tend to be of poor mental calibre. With regard to human generation, however, that is only one aspect of the situation. Mentally defective children can and very often do make their appearance in apparently healthy families where at least there is no evidence of hereditary tainting. For that reason the popular belief that the surgical sterilisation of mental defectives is an infallible means of securing a rapid and substantial reduction in their number would appear to require modification.

There are many gaps in our present knowledge of the complex science of human genetics. Until research has unravelled some of the more pressing and urgent difficulties with which we are confronted, it would surely be unsound to proceed in the present empirical state of our knowledge to the legalisation of such drastic measures.

Discharges.—Two cases, one male and one female, were discharged from care during the year. The male patient, a feeble-minded youth, was successful in being enlisted as a private soldier in the regular army. After a period of preliminary difficulty he adapted himself satisfactorily to the conditions of the service, and is now serving with His Majesty's Forces overseas.

One patient, a male, chargeable to the City of Glasgow, was transferred to a Certified Institution in that area.

Deaths.—Three deaths occurred in the Institution during the year, two being in the case of male patients, and one in the case of a female patient. One epileptic boy died in status epilepticus, the other died of chronic hydrocephalus, whilst the girl died of progressive cerebral syphilis. Thus in each case death was due to chronic cerebral disease. The average age at death was 14·3 years.

General Health.—The general health of the patients during the year has again been satisfactory. There has been no serious illness, and when it is remembered that 25 per cent. of the present patient population suffer from such gross physical or mental deformity as to render them permanently bedridden, this fact reflects very creditably on the standard of nursing care that obtains in the Institution. One accident affecting a male patient occurred. A boy fell while at play and sustained a simple greenstick fracture of both bones of the left forearm. The condition was speedily rectified, and recovery was uneventful and complete.

The health of the Staff has also been good. Illness resulted in the loss of duty time in only two cases. One nurse suffered from an acute follicular tonsillitis, whilst one attendant was seriously ill for some weeks with acute lobar pneumonia.

Employment of Adult Patients.—The main avenues available for the employment of our adult patients are laundrywork, kitchenwork, sewing, and housework in the case of the female patients, and gardening, transportation of food and stores, stoking, and general maintenance work in the case of the male patients.

Owing to the lack of steam for power at the Institution, it has hitherto been impracticable to instal machinery to aid in the work of the laundry, and the various processes have all been performed by hand. During the year the patients, under the supervision of the Laundry Superintendent, and with the assistance of one laundrymaid, have dealt with 175,000 articles involving the performance of more than half a million operations.

Approximately twelve acres of ground were cultivated by patients during the year. After making deductions estimated to cover the cost of the patients' labour, the value of the garden produce supplied to the Institution was £202. In addition, produce to the value of £18 was supplied to other Corporation Institutions or sold elsewhere. Thus the nett value of the produce raised by the patients during the year amounted to £220.

Education of Juvenile Patients.—In former years the education of patients was carried out under a Continuation Class scheme, whereby a teacher appointed by the Education Authority visited the Institution on three afternoons weekly during the school term, each class or session being of approximately one hour's duration. With the expansion of the Institution and the consequent admission of juvenile patients, this service was found to be inadequate. An Army hut was converted into a temporary school, and in September, Miss Herd, who had previously acted in a part-time capacity, was appointed to take charge of the education of the children. The school has worked smoothly and successfully since its inception. This has been largely due to the co-operation and practical assistance rendered by the Education Committee of the Corporation. Twenty children, of both sexes, attend school daily. In addition, one afternoon weekly is devoted to the teaching of handicraft work to high grade adult patients.

Formation of Guide and Scout Troops.—It has been felt for some time that in addition to the education, employment, and industrial training, some special social training should be undertaken for those patients suffering from the less severe forms of mental defect, who might eventually be restored to ordinary life in the community. Scouting for boys, and Guiding for girls, seemed to offer a means whereby this end might be achieved in a simple, interesting, and effective manner. During the year a Scout Troop, numbering eighteen, and officered by two attendants, was formed. A Girl Guide Troop, officered by two nurses, was likewise formed.

Those members of the staff who officer the troops do so in their off-duty time, and have themselves borne the expense of the necessary training to equip them for this work. The cost of providing the boys and girls with the necessary uniforms amounted to £35. This sum was presented to me by the nursing staff.

This movement has done a great deal to increase the contentment and happiness of the high-grade patients of both sexes. It has also in some measure helped to bridge the gulf between the patients and their normal fellows with whom their activities have brought them in contact. It is sincerely hoped that the existing troops are but the nucleus of a growing, virile movement.

General Recreation.—During the year numerous concerts were arranged for the recreation of the patients. We have to thank many friends who, by bringing concert parties to the Institution, have contributed in no small measure to the welfare of our small community. I would like here to express my deep sense of appreciation of the manner in which the nursing staff have so freely given of their time and money to organise ward parties for their patients at Hallowe'en and Christmas. I hope that the very evident enjoyment and happiness which these parties gave to the patients proved an ample reward.

Development of the Institution.—Although this has been a quiet year having regard to the number of patients admitted to or removed from the Institution, it has been a year of great activity with regard to the provision of new and much needed buildings. The Administrative Block, with its annexed hospitals, has been brought to the point of completion, as have the two new pavilions for high-grade patients. Such development and equipment of the kitchen and laundry as is required for the reception of additional patients is proceeding. The boilers and pumps necessary for the supply of hot water, and steam for heating and power purposes have been installed. Arrangements have been made for the accommodation of the extra staff required, and for the more adequate housing of the existing staff. Arrangements have been made for the education, employment, and training of the additional patient population. It remains for the early months of 1932 to see these plans and arrangements brought into actual and effective operation.

Acknowledgments.—From the Matron, the heads of departments, and staff as a whole I have received loyal and willing assistance in carrying on the work of the Institution. The difficulties that necessarily arise from time to time in a young and growing hospital, have been met with a good humour, cheerfulness, and devotion to the interests of the patients that are deserving of the highest commendation, and for which I return my sincere thanks.

I have the honour to be, Sir,

Your obedient Servant,

REGINALD BAILEY, M.B., Ch.B.,

Medical Superintendent.

SCHOOL MEDICAL SERVICE.

In compiling the Annual Report on the School Medical Services, the 24th of the series initiated by Dr. Hally Meikle and the first since the amalgamation of the Municipal Medical Services, the lines of previous years have been closely followed in order to maintain continuity.

Two important changes in the Medical Staff have to be recorded. First, the resignation from the post of Chief Medical Officer of Dr. Hally Meikle after 24 years in the Service which he built up, and second, the retiral of Dr. Katherine Clark, who had been in the Service for 20 years. To the ripe experience and sympathetic understanding of these two doctors many children and adults of the City owe their present health, and indirectly, their niche in the social sphere.

It may be useful to indicate broadly the functions of the School Medical Service. These are, Inspection, Recording, Advisory, Preventive, and Remedial. *Inspection* covers the various routine and special examinations of children for gauging standards in health and for detecting disease. *Recording* is for the compilation of statistics. *Advisory* is the giving of advice to parents and others where disease is found in the child. *Preventive* refers to the maintenance of health both with regard to the possible development of ordinary disease in individual children and to the spread of infectious and contagious diseases. *Remedial* refers to (a) the treatment of special conditions, such as, those of the eye, throat, and teeth; (b) the treatment of certain skin diseases; (c) the treatment of general debilitated states in the Holiday Home; (d) the treatment of such minor ailments as do not require the services of the family doctor, but which might become serious to the child or his associates; (e) the provision, by arrangement with the Tuberculosis Officer, of ultra-violet ray therapy in selected cases; (f) minor treatment, in certain cases, in the Physical Defective Schools.

As a result of the amalgamation with the Public Health Department, under the Medical Officer of Health, co-operation with the other sections is facilitated and information more expeditiously obtained.

Certain matters of interest, apart from the purely statistical, are dealt with in the Report, namely: a summary of the Medical aspect of the Milk Scheme initiated by the Education Committee (p. 96); an account of "Sugar Treatment" tried in a small number of defective children (p. 97); a short survey of the incidence of Rheumatism, (p. 98); a note on incidence of Dental Caries during the last 20 years, (p. 99); an abstract of the Medical Report on Backward Children (p. 100); the result of the census of Stammerers (p. 101); a note on Mouth-breathing (p. 102).

Acknowledgment must be made of the valuable assistance given by the members of the Education Officer's Department and by the Teaching Staff.

Supply of Milk to School Children.—The Education Committee initiated a scheme of Milk Supply starting on 9th February 1931. They decided (a) to proceed under the 1908 Act instead of the 1930 Act which specifies Certified Milk, if obtainable; (b) to supply Grade A (T.T.) Milk; (c) to commence in the Infant Departments of two schools as an administrative experiment.

The milk is supplied in bottles containing one-third of a pint, at the cost of one penny to those who can afford to pay. A sum of £30 was allocated to provide for those whose incomes came within the "necessitous clause" limit adopted by the Committee.

Immediately prior to consumption the metal cap of each bottle is pierced and the milk ingested through a straw.

Medical investigations into the results of milk feeding corroborated those found elsewhere. For each "milk school" another nearby, having a similar type of population and with children in corresponding classes, was taken as a control. A summary of the effects is given below:—

Weights.

School.		Numbers.	Gained (%).	Lost (%).	Stationary (%).
Milton House . . .	Milk . . .	218	84.4	6.8	8.6
North Canongate . . .	Control . . .	157	84.7	9.7	5.7
Couper Street . . .	Milk . . .	208	96.6	3.3	Nil.
Yardheads . . .	Control . . .	206	76.2	14.0	9.7

During the Easter vacation no milk was given. The results on the weights of children who had received it may be gauged from the following:—

	Gained (%).	Lost (%).	Stationary (%).
Couper Street	49.0	37.6	13.3
Milton House	52.6	33.6	13.7

This shows that about one-half of the children "missed" the milk during even the few days of the vacation. Those who showed the greatest loss were children who received the milk free.

The general condition, apart from weight, of the majority of the children was definitely better at the second medical examination.

Opinions of the Headmasters concerned may be of interest: "The teachers speak in very favourable terms of the results. The fact that the parents were desirous of getting milk for the older pupils indicates that they also recognised the efficacy of the milk." ". . . There was a marked improvement in the appearance of not a few pupils which naturally reflected itself in their attitude to their work. The scheme has commended itself to the parents. . . ."

The scheme is being extended on a paying basis to several other schools. By vote of Committee the sum of £100 has been allocated to provide free milk to necessitous children in the Infant Departments of four schools. It would appear desirable that, at the end of Session 1932, four other schools should replace the original four.

For the purposes of this investigation 670 Special medical examinations were made.

"Sugar Diet."—In one school for physically defective children it was noted that several failed to gain weight despite the mid-day meal, extra milk, and cod liver oil provided. To remedy this, it was decided to try the effect of giving additional sugar twice daily between meals. Twenty children were selected, and the "diet", consisting of extra sugar in cocoa and two "boiled" sweets daily, was given for six months.

The results were remarkable. All except one gained weight; one gained $2\frac{1}{2}$ lbs. in two months. The one failure was a child who was involved in an accident and lost much weight while absent from school.

Apart from the improvement in general condition, improvement was also noted in two other directions; the children became more energetic and more agile mentally.

To evidence the changes, a few extracts from case reports might be given. Such opinions as the following are the rule: "Has now a brighter and happier nature: very energetic." "Is less nervous, brighter and happier: rarely cries: takes an interest in his lessons and is beginning to learn." "Seems to have wakened up." "More amiable and less quarrelsome." One boy who "did not care to play, preferred to sit at the fire," now "cannot get out quick enough to play. Full of energy." A girl who

“less than a year ago could not read, knew only a few letters and figures and, indeed, was so backward in learning that a teacher suggested she be graded as M.D.—Can now concentrate on her lessons. So great is the difference in every way in this child that it is almost phenomenal.”

Unfortunately, this addition to diet can only be of use in selected cases. It is not a panacea.

Glucose in Backward Children.—Noting the improvement in mentality of the above children, it was thought that similar treatment might be useful for pupils in Backward Classes. In view of the expenditure, the numbers had to be limited, so four children were selected in each of Milton House and North Canongate Schools. These scholars were given glucose instead of sugar because of the difficulties in preparing cocoa. The teachers very kindly gave the glucose.

Although all the children improved, the results require to be read with caution. Such matters as environment, sympathy of teacher, and different methods of teaching must be allowed for. Still, the general consensus of opinion of Head Teachers, teachers, and parents was that the administration of glucose should be continued. Certainly, such a report as the following supports this: “One of the girls who was late every morning, the excuse being that she had slept in, has not been late once in five weeks.”

It is proposed to continue, and if possible extend, both of these types of treatment in suitable cases.

Rheumatism.—The toll exacted from the school children of Edinburgh by rheumatism is fairly high. Not only does the condition cause much suffering and interfere with educational progress, but it leaves crippling after-effects in the shape of damaged hearts and that irritation of brain cells which we know as chorea.

To indicate the extent of the disease, figures are given showing:—

- (a) Number of children who gave a rheumatic history at routine inspection.
- (b) Number of cases reported to the M.O.H. by practitioners during the year.
- (c) Number with this condition who were reported as being two or more years behind in their class-work.
- (d) Number in Special Schools owing to the crippling after-effects.

(A.) *Rheumatic History.*—At routine medical inspection 88 children gave a history of rheumatism, mild or severe. Of these, 1 was chorea and 40 were “growing pains.” None of these is included in the figures given below.

(B.) *Notifications.*—There were notified during the year by attendant doctors 253 cases: 104 boys and 149 girls. These are tabulated below to show those suffering from: rheumatic fever, rheumatic heart, chorea, chorea *plus* heart, rheumatism of the joints, and rheumatism of the sub-acute variety. Only 7 boys and 17 girls were able to resume and continue at school within a month of notification.

	Boys.	Girls.
Rheumatic Fever . . .	23	33
Rheumatic Heart . . .	14	15
Chorea . . .	22	45
Chorea and Heart . . .	3	4
Joint Rheumatism . . .	5	12
“Rheumatism” . . .	37	40
Totals . . .	104	149

(C.) *On Retarded Registers.*—As reported elsewhere, out of 1,112 children returned as being two or more years behind in their class, 509 showed medical “defects.” Of these, 31 or 6 per cent. showed signs of previous Rheumatism, including 8 who had histories or signs of Chorea and 2 who had rheumatic heart disease.

(D.) *In Special Schools.*—*Boys* so physically crippled by rheumatic complications that they could not stand the hurly-burly of ordinary school life, and consequently requiring tuition in Special Schools, numbered 23. *Girls* similarly incapacitated numbered 35, distributed as follows :—

	Boys.	Girls.
Rheumatic Heart	1	7
Chorea	14	17
Chorea and Heart	2	4
Rheumatism	6	7
Totals	<u>23</u>	<u>35</u>

To emphasise the incidence of the Heart and Brain complications in school children, we might add together the numbers given in the above tables of those so affected :—

	Boys.	Girls.	Totals.
Rheumatic Heart	16	23	39
Chorea	42	65	107
Chorea and Heart	5	8	13

The greater incidence of the important complications in girls is to be noted, especially so when one considers that certain of the heart conditions tend to grow worse in later years and form an ominous complication in child-birth.

Much research has been done in an endeavour to find what factors determine the onset of acute rheumatism. It is generally agreed that the germ belongs to the large *Streptococcal* family. It is further stated, in certain quarters, that enlarged tonsils and adenoids are in some way related to the disease. Damp and unhygienic dwellings, family tendencies, and diet, have by some, been accused of playing a part. But one fact has been agreed to by all : the disease must not be regarded lightly. Even the so-called “growing pains,” really a form of rheumatism, may cause chorea and heart disease, and, if at all marked, are an indication for a visit to the doctor.

Dental Decay in Infants.—The percentage of infant entrants with decayed teeth is again on the increase. A graph of the incidence shows definite waves as may be judged from the following percentages :—1910—87 ; 1913—69 ; 1916—88 ; 1921—69 ; 1931—77.

An initial post-war diminution followed by a rise appears to have been general throughout Britain. It has been suggested that this diminution was due to a shortage of sugar during the war years, but this could not apply to the marked Edinburgh fall in 1913.

To see whether there was any relationship between the incidence of bad nutrition and dental decay in infants, the graphs of the two conditions were compared. No direct correlation was found. During the War period both increased : otherwise, if any conclusion can be drawn, it would seem that when the curve of bad nutrition falls, that of dental decay tends to rise.

It is suspected that at least two factors may be operating in the above-mentioned increase of caries in school entrants—one, an undue preponderance of starches and sugars in the diet of the working-classes ; two, a lack of “the tooth-brush habit” in their homes. And yet, as is shown below, too many parents will not accept proffered dental treatment for their children until toothache and gumboils force them to do so.

A regrettable feature of the Committee’s dental scheme is the falling percentage of acceptances of proffered treatment. In 1913, 40 per cent. accepted ; in 1931 only 21 per cent. Side by side with this is a steadily rising increase in the number of “Special” cases—children who are brought with “gumboils” and toothache. Expressing these “specials” as a percentage of those “offered treatment” we find that in 1915 the figure was under 7 per cent., while in 1931 it was 23 per cent.

A general survey of the results obtained from dental inspection at all ages suggests that, as inspection cannot be extended to an annual examination of each child, better results might be obtained by examinations at ages 6, 8, and 10, instead of at 6, 9, and 12 as at present.

In an endeavour to educate scholars generally in the importance of dental hygiene, arrangements have been made, with the approval of the Education Committee, for the Dental Boards' Lecturers to conduct a series of lectures and demonstrations free of charge, in selected schools, extending over a fortnight in the summer of 1932. The promoters have consented to parents attending.

Backward Registers.—All children who are two or more years older than the average age of the other scholars in their class are reported on "Backward Registers," and Head Teachers are asked to indicate reasons for such retardation. The reasons include "Change of School," "Slow Development," "Health Reasons," "Mental Defect or Bordering Thereon," etc.

Children on these Registers undergo a special examination. The results of these examinations are summarised below :—

(The term "Defect" is used for brevity, and includes results of previous diseases, accidents, operations, etc.).

Defects.—

Number of pupils reported on Backward Registers	.	.	.	1,112
Reported by Teachers under "Health Reasons"	.	.	.	438
Deduct—				
No sufficient explanations found by M.O.'s	.	.	.	35
Add—				
Reported under other categories but found defective	.	.	.	106
Total number showing "defects"	.	.	.	509
Total number of such "defects"	.	.	.	609

Treatment Offered.—

Cards offering treatment were given in 198 cases.

Notices to parents regarding conditions found—39.

Number retained under Routine Supervision—233.

Remarks.—

Of the 1,112 children reported, 45·6 per cent. showed "defects."

On analysing the medical conditions found, it is interesting to note that "*tonsils and adenoids*" form the highest single defect, being noted in 105 children, giving 16·5 per cent. of the total defects. Of these, no less than 81 were sufficiently marked to be referred to the Aurist with a view to operative treatment.

If, to these, one adds other disabilities resulting from *catarrhal conditions*, the number of retarded children showing catarrhs is 147 (23·2 per cent. of defects). The explanation of this is complex but probably involves the following factors :—Chronic infection due to prolonged contact in the home with others suffering from catarrh ; unhygienic surroundings ; insufficient vitamin A to increase resistance to the germs ; lack of nasal hygiene and faulty breathing.

Nutritional Defects are lower than might be expected :—Poor nutrition, 35 ; rickets, 12 ; total 47 or 7·4 per cent. of defects.

The effects of *Rheumatism* are noted in :—Rheumatism, acquired heart disease, chorea and about 20 per cent. of the "anæmias" ; a total of 31 or 4·9 per cent. of defects.

Eye Defects total too large a number, namely 152. Of these no less than 96 were visual defects, including 20 children who were not wearing their glasses, and no less than 43 cases of squint. Cards offering treatment were issued to 87 of the visually defective and to 11 of those with squints; the remaining squint cases were considered to be of too long standing to profit by lenses. It again requires to be emphasised that, to obtain a cure, squint should be treated at the earliest possible moment, preferably before the child reaches school years.

Tuberculosis is, naturally, in evidence, since the duration of treatment is frequently long. There were 32 cases, namely, pulmonary tuberculosis 1, suspected pulmonary 3, and non-pulmonary 28; of the last, 11 were glandular and 16 bones and joints.

Psychological features were noted in 12 "nervous" children and in three who had "inferiority complex and fear," a total of 15. It is to be expected that more detailed psychological examination would augment this number.

Preventable conditions.—In the present state of our medical knowledge, the number of diseases falling under the category "preventable" is limited. Nevertheless, of the 645 defects found, no less than 290 were "preventable." To aim at eliminating all such is at present idealistic, but that must be the ultimate endeavour of preventive medicine.

In general, from the medical point of view, it may be said that the Backward Registers fulfil a most useful function, in bringing under the Medical Officer's eye children who might otherwise escape for a long period between routine inspections.

DEFECTS NOTED.

Eyes—152	Defective vision	96	Rickets	12	
	Strabismus	43	Previous Illnesses	11	
	Conjunctivitis	6	Rheumatism	5	
	Blepharitis	4	Oral Sepsis	5	
	Corneal Opacities	3	Deformities	4	
Tonsils and Adenoids		105	Operations	3	
Circulation 51—Anæmia		37	Congenital Syphilis	3	
	Heart Conditons	14	Inferiority Complex	3	
Nutritional defects		49	Skin Disease	3	
Ears—46	Slight deafness	24	Nephritis	2	
	Otorrhœa	15	Diabetes	2	
	Mastoid	7	Obesity (Glandular)		} One each.
Chest		39	Cœliac Disease		
Tuberculosis (Surgical)		28	Scalp Disease		
Home inattention		25	Lack of Sleep		
Nervous System		22	Overclad		
Speech defect		18	Smoking		
Accidents		14	Parental Indulgence		
TOTAL DEFECTS		609			
CARDS ISSUED		198			
NOTICES ISSUED		39			

Stammerers.—During the year a census of stammering children in all the Committee schools was made. 495 children so suffering were reported by Head Teachers. These were medically examined and 115 were found to require further specialist investigation and treatment. To undertake this a scheme is being investigated whereby the co-operation of throat specialists, psychologists, and others can be obtained.

While the psychological causes underlying stammering are many and complex, one or two points might be mentioned. In many cases the defect is imitative, the child, consciously or unconsciously, "copying" some one who stammers. In some cases stammering is a "defence mechanism": a child, slow by nature, gaining a few seconds to formulate his ideas. In other instances it is associated with a definite "inferiority complex" and may cause the child acute mental agony which, in turn, makes the defect worse. Particularly in these latter cases have relatives to be warned against fault-finding, ridicule, and punishment as means of "curing the child": encouragement, suggestion, sympathy and reward are indicated.

Pending the evolution of a complete scheme, psychological investigation of certain of these cases is being conducted by Professor Drever and his staff.

After-treatment of Adenoid Operations.—Operations for removal of adenoids and tonsils are, by arrangement, performed at various voluntary hospitals in the City. A grant is made to each Hospital according to the numbers of children of school age who present the cards, issued to parents by medical officers, indicating the need for such operation. During the year 391 cards so issued were returned, but an additional 440 school children are known to have undergone this operation without presenting cards. Probably the total number would be over 1,100.

Such operations are undertaken almost entirely for the adenoid growths which block the back of the nose, causing the child to breathe through the mouth. Removal of tonsils alone is done only where special indications are present.

Failure to use the nose in breathing is now known to be not so common as was once thought. But it does exist, and where this is so, as indicated in the report by Mr Ewart Martin, operation itself will not entail a complete cure. The habit of mouth-breathing, once acquired, is very difficult to break. Two to three years' re-education may be required to re-establish unconscious nasal respiration and, for this, co-operation of parent and teacher is needed.

I. Number of Schools.

The number of Schools and Special Classes under the Scheme of Medical Inspection is 110 :—

Elementary Schools	77
Intermediate and Secondary Schools	15
Special Schools and Classes	13
Merchant Company Schools	4
Edinburgh Institution	1
	<hr/>
	110

The average number of pupils on the roll was 61,321, with an average daily attendance of 56,494 :—

	Average Roll.	Average. Attendance.
Elementary Schools	41,199	37,905
Intermediate and Secondary Schools	8,212	7,664
Special Schools	1,056	933
Episcopal Schools	902	828
Roman Catholic Schools	5,820	5,335
Merchant Company Schools	3,862	3,577
Edinburgh Institution	270	252
	<hr/>	<hr/>
	61,321	56,494

II. Number of Visits to Schools for Systematic Examination in accordance with Scheme of Inspection.

The total number of visits paid to schools in connection with routine examination was 1,474.

III. Organisation and Administration.

A. System of Medical Inspection.—The following groups of pupils are examined—

In Primary Schools—

- (a) Newly enrolled infants.
- (b) Nine-year-old pupils.
- (c) Leavers.

In Intermediate and Secondary Schools—

- (a) Twelve-year-old pupils.
- (b) Sixteen-year-old pupils.

Schools are visited at regular intervals during the session by the same doctor and the same nurse. The larger schools are visited once a fortnight, smaller schools every three or four weeks.

At each visit to schools for routine inspection, a certain time is devoted to the examination of any pupils presented by the Head Master or sent by Attendance Officers; these pupils constitute the “special” cases mentioned in the Report. In addition, Monday forenoons and Wednesday afternoons are devoted to the examination at Lauriston Place Treatment Centre of cases sent up by the Chief Attendance Officer, and to cases requiring more detailed examination. Similar cases are examined at Links Place Treatment Centre on Wednesday afternoons.

All the Special Schools are visited at regular intervals.

B. Nurses.—The total number of nurses employed on School work is sixteen. Six assist at school inspection, four are attached to the Special Schools, and six to the Treatment Centres.

Duties in Schools.—In addition to assisting at routine inspections, where 1,353 visits were paid to schools, 11,776 special examinations were made in schools by the nurses in connection with neglect cases.

Home Visitation.—The nurses paid 1,290 visits to homes.

C. Arrangements for “Following Up.”—In connection with dirty and verminous conditions, 396 notices were issued from schools. These cases are visited by the nurses, usually with satisfactory results, but it was found necessary to serve Statutory Warning Notices upon 27 parents.

Insufficient Food, Boots, or Clothing.—Warning Notices are sent from schools regarding these conditions, and when application is made by parents for assistance, either for food or clothing, a full inquiry is made into the case by a committee, which decides whether the case is one of poverty and deserving relief, or one of neglect to be dealt with by Statutory Notice, etc.

The Education Committee’s Feeding Scheme.—Details regarding this scheme are given later in the Report.

Clothing of Necessitous Children.—The requirement as regards clothing and boots for necessitous children continues to be met by the operations of the Police-Aided Clothing Scheme, and other charitable Agencies. Details are given under IV. E.

The following Table shows the number of Warning Notices under Section 6 of the 1908 Education Act served upon parents for the various forms of neglect:—

Forms of Neglect.	Number of Notices served.
Insufficient Boots or Clothing	13
Dirt and Vermin	27
Neglect of Medical Treatment	8
	—
	48
	—

D. Infectious Disease.—The following Table gives the total number of children absent during the session owing to various infectious diseases, showing actual cases and contacts. In the table, the monthly totals are shown.

Absence due to Infectious Disease.

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	July.	Totals.	Per cent. of Totals	Actual Cases.	Con-tacts.
1. Scarlet Fever	102	138	99	76	102	68	45	22	52	24	14	742	10·7	380	362
2. Diphtheria	126	166	182	93	252	131	69	43	83	61	39	1,245	17·9	481	764
3. Erysipelas . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Cerebro-spinal Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Typhoid	1	2	...	...	...	...	...	...	...	1	...	4	0·1	4	...
6. Measles	11	8	5	6	9	66	67	42	77	93	44	428	6·1	341	87
7. Whooping Cough	57	20	36	25	94	82	104	54	139	76	17	704	10·1	657	47
8. Chicken-pox	32	51	72	82	143	278	273	107	131	131	65	1,365	19·6	1,118	247
9. Mumps	18	47	73	66	144	225	184	117	246	195	68	1,383	19·9	1,205	178
10. Skin Diseases	77	65	36	13	42	22	25	21	30	24	16	371	5·3	371	...
11. Ringworm	15	8	14	21	16	10	10	8	19	6	4	131	1·8	131	...
12. Itch	26	80	64	43	68	38	50	18	52	40	16	495	7·1	495	...
13. Eye Diseases	8	17	10	2	5	9	4	2	2	4	...	63	0·9	63	...
Totals	473	602	591	427	875	929	831	434	831	655	283	6,931	100	5,246	1,685

E. Presence of Parents at Inspection.—The number of parents present at the routine inspection was 7,023 for the 15,427 pupils examined—45·6 per cent. The majority of these were present at the examination of infants: for infants, 70·7 per cent.; 9-year-olds, 43·5 per cent.; 12-year-olds, leavers, and 16-year-olds, 3·9.

IV. The Physical Condition of the School Children.

A. Total Number of Children Examined.

(a) At Systematic Examinations.

	No. of Examinations.
Infants Boys, 3,198 ; Girls, 3,131 =	6,329
9-year-olds „ 2,766 ; „ 2,791 =	5,557
12-year-olds „ 599 ; „ 559 =	1,158
Leavers „ 1,100 ; „ 1,196 =	2,296
16-year-olds „ 52 ; „ 35 =	87
	<hr/> 15,427
<i>Nursery Schools :</i>	
Lochrin Boys, 19 ; Girls, 9 =	28
Tynecastle „ 4 ; „ 7 =	11
	<hr/> 39
Merchant Company Schools	1,382
Royal High	252
Edinburgh Institution	84
Students in Preliminary Training	43
Special Schools : Examinations and Re-examinations	1,948
	<hr/> 19,175

(b) Special Cases.

Psychological Examinations	353
Special Cases at Schools	8,408
Special Cases at Clinics	6,352
Neglect Cases	11,776
Re-examinations	2,250
Examinations in connection with Employment Act	1,774
Children for Ceres	376
Children at Ceres	220
In connection with Milk Scheme	670
	<hr/> 32,179
Total No. of Examinations	<hr/> 51,354

B. Number of Children notified to parents as suffering from Defects.

3,074 Notices were issued. Of these, 1,240 or 40·3 per cent. were in connection with defective vision ; 661 or 21·5 per cent. for tonsils and adenoids, otorrhœa, etc. ; 592 or 19·2 per cent. for teeth ; 396 or 12·9 per cent. for dirty or verminous condition of head ; 185 or 6·0 per cent. for other conditions.

C. Supervision.

Of the 8,408 Special Cases seen at schools, 1,218 were re-examined, and 994 or 81·6 per cent. were cured or improved.

At routine examinations, 2,576 cases were placed under medical supervision ; of these, 1,042 were re-examined and 929 or 89·1 per cent. were cured or improved.

D. Clothing.

	Number Examined.	Insufficient.		In need of Repair.		Dirty.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	...	...	2	0·06	2	0·06
Girls	3,131	1	0·03	4	0·1	3	0·09
<i>9-year-olds—</i>							
Boys	2,766	...	...	4	0·1	4	0·1
Girls	2,791	3	0·1	5	0·1	1	0·03
<i>12-year-olds—</i>							
Boys	599	...	...	...	...	...	...
Girls	559	...	...	...	...	...	...
<i>Leavers—</i>							
Boys	1,100	...	...	1	0·09	...	...
Girls	1,196	...	...	1	0·08	...	...
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...
Total . . .	15,427	4	0·02	17	0·1	10	0·06

E. Insufficiency of Clothing and Footgear.

The Committee of the Police-Aided Scheme, supplied boots and clothing to 5,220 children. Through the kindness of (a) St. Cuthbert's Co-operative Association 647 pairs of boots, and (b) the Leith Provident Society, 63 pairs of boots were provided for necessitous children ; 236 children were supplied with boots by the Education Committee on condition that they were paid for by the parents ; boots and clothing were supplied to 55 children under Section 6 of the 1908 Act ; from the Flora Stevenson Fund, 52 pairs of boots and 2 outfits of clothing were distributed.

F. Heights and Weights.

	Number Examined.	Average Height in Inches.	Average Weight in Pounds.
<i>Boys—</i>			
Infants	3,093	41·7"	40·4
9-year-olds	2,720	48·7"	55·2
12-year-olds	237	56·4"	84·6
Leavers	550	58·2"	87·8
<i>Girls—</i>			
Infants	3,063	41·4"	38·8
9-year-olds	2,805	48·7"	53·3
12-year-olds	216	57·6"	81·0
Leavers	532	59·2"	91·4

G. Cleanliness.

(a) Head.

	Number examined.	Nits.		Verminous.		Dirty.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Boys—</i>							
Infants	3,198	9	0.2	...	...	2	0.06
9-year-olds	2,766	3	0.1	1	0.03	2	0.07
12-year-olds	599	...	...	...	...	...	...
Leavers	1,100	2	0.1	1	0.09	1	0.09
16-year-olds	52	...	...	...	...	...	...
<i>Girls—</i>							
Infants	3,131	161	5.1	7	0.2	3	0.09
9-year-olds	2,791	226	8.0	12	0.4	...	...
12-year-olds	559	29	5.1	2	0.3	...	...
Leavers	1,196	79	6.6	2	0.1	...	...
16-year-olds	35	...	...	...	...	...	...
Total	15,427	509	3.2	25	0.1	8	0.05

(b) Body.

	Number examined.	Dirty.		Verminous.	
		Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>					
Boys	3,198	2	0.06	6	0.1
Girls	3,131	5	0.1	6	0.1
<i>9-year-olds—</i>					
Boys	2,766	6	0.2	2	0.07
Girls	2,791	5	0.1	4	0.1
<i>12-year-olds—</i>					
Boys	599	...	...	...	...
Girls	559	...	...	...	...
<i>Leavers—</i>					
Boys	1,100	3	0.2	...	...
Girls	1,196	1	0.08	...	...
<i>16-year-olds—</i>					
Boys	52	...	...	...	...
Girls	35	...	...	...	...
Total	15,427	22	0.1	18	0.1

H. Condition of Skin.

(a) Head.

	Number examined.	Ringworm.		Impetigo.		Others.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	...	...	4	0.1	20	0.6
Girls	3,131	2	0.06	7	0.2	9	0.2
<i>9-year-olds—</i>							
Boys	2,766	...	...	6	0.2	6	0.2
Girls	2,791	2	0.07	2	0.07	11	0.3
<i>12-year-olds—</i>							
Boys	599	...	...	2	0.3	2	0.3
Girls	559	...	...	...	...	3	0.5
<i>Leavers—</i>							
Boys	1,100	...	...	...	...	3	0.2
Girls	1,196	...	...	1	0.08	5	0.4
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...
Total	15,427	4	0.02	22	0.1	59	0.3

H. Condition of Skin.—*continued.*(b) *Body.*

	Number examined.	Ringworm.		Impetigo.		Others.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	2	0·06	19	0·5	55	1·4
Girls	3,131	...	...	17	0·5	62	1·9
<i>9-year-olds—</i>							
Boys	2,766	5	0·1	13	0·4	60	2·1
Girls	2,791	2	0·07	4	0·1	37	1·3
<i>12-year-olds—</i>							
Boys	599	...	...	...	...	7	1·1
Girls	559	...	...	...	...	11	1·9
<i>Leavers—</i>							
Boys	1,100	1	0·09	1	0·09	26	2·3
Girls	1,196	...	...	1	0·08	14	1·1
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...
Total . . .	15,427	10	0·06	55	0·3	272	1·7

I. Nutrition.

	Number. examined.	Above Average.		Average.		Below Average.		Bad nutrition.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>									
Boys	3,198	608	19·0	2,211	69·1	373	11·7	6	0·2
Girls	3,131	526	16·8	2,069	66·0	515	16·4	21	0·6
<i>9-year-olds—</i>									
Boys	2,766	602	21·7	1,844	66·6	311	11·2	9	0·3
Girls	2,791	583	20·8	1,914	68·5	290	10·3	4	0·1
<i>12-year-olds—</i>									
Boys	599	96	16·0	475	79·3	28	4·6	...	...
Girls	559	122	21·8	408	72·9	26	4·6	3	0·5
<i>Leavers—</i>									
Boys	1,100	268	24·3	757	68·8	74	6·7	1	0·09
Girls	1,196	357	29·8	779	65·1	59	4·9	1	0·08
<i>16-year-olds—</i>									
Boys	52	12	23·0	38	73·0	2	3·8	...	...
Girls	35	11	31·4	24	68·5	...	...	...	...
Total . . .	15,427	3,185	20·6	10,519	68·1	1,678	10·8	45	0·2

J. Teeth.

	Number examined.	Sound.		1-4 decayed.		5 or more decayed.		Oral sepsis.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>									
Boys	3,198	743	23·2	1,976	61·8	479	15·0	142	4·4
Girls	3,131	677	21·6	1,972	62·9	482	15·3	138	4·4
<i>9-year-olds—</i>									
Boys	2,766	709	25·6	1,770	63·9	287	10·3	64	2·3
Girls	2,791	643	23·0	1,868	66·9	280	10·0	42	1·5
<i>12-year-olds—</i>									
Boys	599	205	34·2	378	63·1	16	2·6	1	0·1
Girls	559	195	34·8	342	61·1	22	3·9	2	0·3
<i>Leavers—</i>									
Boys	1,100	418	38·0	631	57·3	51	4·6	4	0·3
Girls	1,196	430	35·9	692	57·8	74	6·1	2	0·1
<i>16-year-olds—</i>									
Boys	52	17	32·6	34	65·3	1	0·08	...	...
Girls	35	19	54·2	16	45·7	...	...	...	...
Total . . .	15,427	4,056	26·2	9,679	62·7	1,692	10·9	395	2·5

K. Nose, Throat, and Glands.

(a) *Nose.*

	Number. examined.	Catarrh.		Obstruction.		Other diseases.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	123	3·8	15	0·4	5	0·1
Girls	3,131	108	3·4	11	0·3	1	0·03
<i>9-year-olds—</i>							
Boys	2,766	104	3·7	21	0·7	5	0·1
Girls	2,791	55	1·9	5	0·1	2	0·07
<i>12-year-olds—</i>							
Boys	599	1	0·1	4	0·6	1	0·1
Girls	559	6	1·0	...	...	1	0·1
<i>Leavers—</i>							
Boys	1,100	9	0·8	11	1·0	1	0·09
Girls	1,196	7	0·5	5	0·4	...	...
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...
Total	15,427	413	2·6	72	4·6	16	0·1

(b) *Throat.*

	Number examined.	Tonsils.				Adenoids.				Other diseases.	
		Slightly enlarged.		Markedly enlarged.		Probably present.		Present.			
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
<i>Infants—</i>											
Boys	3,198	786	24·5	168	5·2	144	4·5	14	0·4	5	0·1
Girls	3,131	828	26·4	174	5·5	138	4·4	7	0·2	9	0·2
<i>9-year-olds—</i>											
Boys	2,766	564	20·3	77	2·7	96	3·4	5	0·1	12	0·4
Girls	2,791	584	20·9	104	3·7	92	3·2	7	0·2	10	0·3
<i>12-year-olds—</i>											
Boys	599	78	13·0	6	1·0	1	0·1	...	...	1	0·1
Girls	559	91	16·2	9	1·6	4	0·7	...	...	...	...
<i>Leavers—</i>											
Boys	1,100	152	13·8	19	1·7	12	1·0	...	...	1	0·09
Girls	1,196	195	16·3	29	2·4	16	1·3	...	...	8	0·6
<i>16-year-olds—</i>											
Boys	52	2	3·8	...	...	...	...	...	...	...	...
Girls	35	2	5·8	1	2·8	...	...	...	...	...	...
Total	15,427	3,282	21·2	587	3·8	503	3·2	33	0·2	46	0·2

(c) *Lymphatic Glands.*(1) *Submaxillary Glands.*

	Number examined.	Palpably Enlarged.		Markedly Enlarged.		Cicatrices.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	35	1·0	6	0·1	4	0·1
Girls	3,131	26	0·8	4	0·1	7	0·2
<i>9-year-olds—</i>							
Boys	2,766	24	0·8	2	0·07	2	0·07
Girls	2,791	27	0·9	...	...	4	0·1
<i>12-year-olds—</i>							
Boys	599	2	0·3	...	...	...	...
Girls	559	1	0·1	...	...	1	0·1
<i>Leavers—</i>							
Boys	1,100	2	0·1	...	...	8	0·7
Girls	1,196	2	0·1	1	0·08	2	0·1
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...
Total	15,427	119	0·7	13	0·08	28	0·1

K. Nose, Throat, and Glands—*continued.*(2) *Cervical Glands.*

	Number examined.	Palpably Enlarged.		Markedly enlarged.		Suppurating.		Cicatrices.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>									
Boys . . .	3,198	249	7·7	28	0·8	1	0·03	15	0·4
Girls . . .	3,131	243	7·7	17	0·5	1	0·03	14	0·4
<i>9-year-olds—</i>									
Boys . . .	2,766	238	8·6	13	0·4	...	...	14	0·5
Girls . . .	2,791	197	7·0	14	0·5	1	0·03	16	0·5
<i>12-year-olds—</i>									
Boys . . .	599	16	2·6	1	0·1	...	...	5	0·8
Girls . . .	559	19	3·3	1	0·1	...	...	11	1·9
<i>Leavers—</i>									
Boys . . .	1,100	43	3·9	1	0·09	...	...	12	1·0
Girls . . .	1,196	39	3·2	1	0·08	...	...	11	0·9
<i>16-year-olds—</i>									
Boys . . .	52	...	...	...	...	...	...	...	...
Girls . . .	35	...	...	...	...	...	...	...	...
Total . .	15,427	1,044	6·7	76	0·4	3	0·1	98	0·6

L. External Eye Diseases.

	Number examined.	Blepharitis.		Conjunctivitis.		Corneal opacities.		Strabismus.		Other diseases.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
<i>Infants—</i>											
Boys . . .	3,198	25	0·7	17	0·5	5	0·1	119	3·7	12	0·3
Girls . . .	3,131	33	1·0	15	0·4	3	0·09	103	3·3	10	0·3
<i>9-year-olds—</i>											
Boys . . .	2,766	32	1·1	14	0·4	2	0·07	98	3·5	10	0·3
Girls . . .	2,791	18	0·6	16	0·5	7	0·2	108	3·8	12	0·4
<i>12-year-olds—</i>											
Boys . . .	599	2	0·3	1	0·1	...	...	16	2·6	3	0·5
Girls . . .	559	5	0·8	3	0·5	1	0·1	14	2·5	...	...
<i>Leavers—</i>											
Boys . . .	1,100	8	0·7	8	0·7	1	0·09	39	3·5	3	0·2
Girls . . .	1,196	13	1·0	6	0·5	1	0·08	36	3·0	7	0·5
<i>16-year-olds</i>											
Boys . . .	52	...	...	...	...	...	...	...	...	...	...
Girls . . .	35	...	...	...	...	...	...	...	...	...	...
Total . .	15,427	136	0·8	80	0·5	20	0·1	533	3·4	57	0·3

M. Visual Acuity.

	Number examined.	Good— $\frac{6}{6}$		Fair— $\frac{6}{9}$ and $\frac{6}{12}$.		Bad— $\frac{6}{18}$ and worse.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>9-year-olds—</i>							
Boys	2,766	2,048	74·0	446	16·1	272	9·8
Girls	2,791	2,045	73·2	455	16·3	291	10·4
<i>12-year-olds—</i>							
Boys	599	471	78·6	72	12·0	56	9·3
Girls	559	401	71·7	88	15·7	70	12·5
<i>Leavers—</i>							
Boys	1,100	803	73·0	123	11·1	174	15·8
Girls	1,196	816	68·2	162	13·5	218	18·2
<i>16-year-olds—</i>							
Boys	52	44	84·6	4	7·6	4	7·6
Girls	35	24	68·5	6	17·1	5	14·2
Total	9,098	6,652	73·1	1,356	14·9	1,090	11·9

N. Ears.

	Number examined.	Otorrhœa.		Wax.		Other diseases.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>							
Boys	3,198	32	1.0	19	0.5	13	0.4
Girls	3,131	19	0.6	21	0.6	8	0.2
<i>9-year-olds—</i>							
Boys	2,766	30	1.0	30	1.0	8	0.2
Girls	2,791	19	0.6	22	0.7	12	0.4
<i>12-year-olds—</i>							
Boys	599	2	0.3	1	0.1	5	0.8
Girls	559	3	0.5	5	0.8	3	0.5
<i>Leavers—</i>							
Boys	1,100	10	0.9	5	0.4	4	0.3
Girls	1,196	7	0.5	6	0.5	3	0.2
<i>16-year-olds—</i>							
Boys	52	...	...	...	...	...	...
Girls	35	1	2.8	...	...	...	...
Total . .	15,427	123	0.7	109	0.7	56	0.3

O. Hearing.

	Number. examined.	Slightly Deaf.		Markedly Deaf.	
		Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>					
Boys	3,198	9	0.2	2	0.06
Girls	3,131	9	0.2	2	0.06
<i>9-year-olds—</i>					
Boys	2,766	65	2.3	5	0.1
Girls	2,791	52	1.8	2	0.07
<i>12-year-olds—</i>					
Boys	599	8	1.3	...	...
Girls	559	11	1.9	1	0.1
<i>Leavers—</i>					
Boys	1,100	20	1.8	3	0.2
Girls	1,196	20	1.6	1	0.08
<i>16-year-olds—</i>					
Boys	52	...	...	...	...
Girls	35	...	...	...	...
Total . .	15,427	194	1.2	16	0.1

P. Speech.

	Number examined.	Defective Speech.		Stammering.	
		Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>					
Boys	3,198	23	0.7	2	0.06
Girls	3,131	13	0.4	1	0.03
<i>9-year-olds—</i>					
Boys	2,766	16	0.5	7	0.2
Girls	2,791	6	0.2	1	0.03
<i>12-year-olds—</i>					
Boys	599	1	0.1	1	0.1
Girls	559	2	0.3	...	...
<i>Leavers—</i>					
Boys	1,100	5	0.4	5	0.4
Girls	1,196	1	0.08	...	...
<i>16-year-olds—</i>					
Boys	52	...	...	...	...
Girls	35	...	...	...	...
Total . .	15,427	67	0.4	17	0.1

Q. Mental Condition.

	Number. examined.	Dull or Backward.	
		Number.	Per cent.
<i>Infants—</i>			
Boys	3,198	3	0·09
Girls	3,131	5	0·1
<i>9-year-olds—</i>			
Boys	2,766	16	0·5
Girls	2,791	7	0·2
<i>12-year-olds—</i>			
Boys	599	...	...
Girls	559	...	...
<i>Leavers—</i>			
Boys	1,100	8	0·7
Girls	1,196	5	0·4
<i>16-year-olds—</i>			
Boys	52	...	...
Girls	35	...	...
Total	15,427	44	0·2

R. Heart and Circulation.

	Number examined.	Organic Heart Disease.				Functional Disorder.		Anæmia.	
		Congenital.		Acquired.		Number.	Per cent.	Number.	Per cent.
		Number.	Per cent.	Number.	Per cent.				
<i>Infants—</i>									
Boys	3,198	5	0·1	9	0·2	23	0·7	60	1·8
Girls	3,131	6	0·1	4	0·1	29	0·9	60	1·9
<i>9-year-olds—</i>									
Boys	2,766	4	0·1	19	0·6	29	1·0	34	1·2
Girls	2,791	10	0·3	17	0·6	23	0·8	47	1·6
<i>12-year-olds—</i>									
Boys	599	3	0·5	3	0·5	2	0·3	3	0·5
Girls	559	3	0·5	6	1·0	7	1·2	12	2·1
<i>Leavers—</i>									
Boys	1,100	...	...	5	0·4	5	0·4	7	0·6
Girls	1,196	5	0·4	10	0·8	10	0·8	17	1·4
<i>16-year-olds—</i>									
Boys	52	...	...	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...	...	...
Total	15,427	36	0·2	73	0·4	128	0·8	240	1·5

S. Lungs.

	Number examined.	Chronic Bronchitis.		Tuberculosis.		Suspected Tuberculosis.		Other diseases.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>									
Boys	3,198	32	1·0	...	...	4	0·1	104	3·2
Girls	3,131	28	0·9	...	...	3	0·09	88	2·8
<i>9-year-olds—</i>									
Boys	2,766	17	0·6	1	0·03	3	0·1	76	2·7
Girls	2,791	10	0·3	...	...	5	0·1	43	1·5
<i>12-year-olds—</i>									
Boys	599	...	...	...	...	...	...	1	0·1
Girls	559	...	...	...	...	...	...	3	0·5
<i>Leavers—</i>									
Boys	1,100	3	0·2	...	...	1	0·09	17	1·5
Girls	1,196	1	0·08	...	...	1	0·08	12	1·0
<i>16-year-olds—</i>									
Boys	52	...	...	...	...	...	...	...	...
Girls	35	...	...	...	...	...	...	...	...
Total	15,427	91	0·5	1	0·006	17	0·1	344	2·2

T. Nervous System.

	Number examined.	Epilepsy.		Chorea.		Infantile Paralysis.		Other diseases.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>									
Boys . . .	3,198	...	...	...	...	3	0.09	34	1.0
Girls . . .	3,131	1	0.03	...	...	4	0.1	39	1.2
<i>9-year-olds—</i>									
Boys . . .	2,766	3	0.1	4	0.1	3	0.1	25	0.9
Girls . . .	2,791	1	0.03	2	0.07	1	0.03	19	0.6
<i>12-year-olds—</i>									
Boys . . .	599	1	0.1	...	...	4	0.6	1	0.1
Girls . . .	559	...	...	...	...	1	0.1	3	0.5
<i>Leavers—</i>									
Boys . . .	1,100	...	...	...	...	2	0.1	2	0.1
Girls . . .	1,196	1	0.08	...	...	1	0.08	3	0.2
<i>16-year-olds—</i>									
Boys . . .	52	...	...	...	...	...	...	...	...
Girls . . .	35	...	...	...	...	...	...	...	...
Total . .	15,427	7	0.04	6	0.03	19	0.1	126	0.8

U. Tuberculosis.

	Number examined.	Glands.		Bones and joints.		Abdominal.		Skin.		Other Forms.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
<i>Infants—</i>											
Boys . . .	3,198	4	0.1	2	0.06	2	0.06	...	...	1	0.03
Girls . . .	3,131	3	0.09	2	0.06	...	...	...	...	...	...
<i>9-year-olds—</i>											
Boys . . .	2,766	2	0.07	4	0.1	...	...	...	...	...	...
Girls . . .	2,791	1	0.03	...	...	1	0.03	...	...	1	0.03
<i>12-year-olds—</i>											
Boys . . .	599	...	...	...	...	...	...	...	...	...	...
Girls . . .	559	...	...	...	...	1	0.1	...	...	...	...
<i>Leavers—</i>											
Boys . . .	1,100	1	0.09	5	0.4	...	...	...	...	3	0.2
Girls . . .	1,196	1	0.08	...	...	1	0.08	1	0.08	...	...
<i>16-year-olds—</i>											
Boys . . .	52	...	...	...	...	...	...	...	...	...	...
Girls . . .	35	...	...	...	...	...	...	...	...	...	...
Total . .	15,427	12	0.07	13	0.08	5	0.03	1	0.006	5	0.03

V. Rickets.

	Number examined.	Slight.		Marked.	
		Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>					
Boys	3,198	48	1.5	18	0.5
Girls	3,131	14	0.4	5	0.1
<i>9-year-olds—</i>					
Boys	2,766	27	0.9	4	0.1
Girls	2,791	12	0.4	3	0.1
<i>12-year-olds—</i>					
Boys	599	...	...	...	...
Girls	559	...	...	...	...
<i>Leavers—</i>					
Boys	1,100	2	0.1	...	...
Girls	1,196	...	...	1	0.08
<i>16-year-olds—</i>					
Boys	52	...	...	...	...
Girls	35	...	...	...	...
Total	15,427	103	0.6	31	0.2

W. Deformities.

	Number examined.	Congenital.		Acquired.	
		Number.	Per cent.	Number.	Per cent.
<i>Infants—</i>					
Boys	3,198	21	0·6	74	2·3
Girls	3,131	13	0·4	27	0·8
<i>9-year-olds—</i>					
Boys	2,766	19	0·6	45	1·6
Girls	2,791	13	0·4	32	1·1
<i>12-year-olds—</i>					
Boys	599	...	...	9	1·5
Girls	559	...	...	5	0·8
<i>Leavers—</i>					
Boys	1,100	4	0·3	24	2·1
Girls	1,196	2	0·1	23	1·9
<i>16-year-olds—</i>					
Boys	52	...	...	...	...
Girls	35	...	...	...	...
Total	15,427	72	0·4	239	1·5

X. Infectious or Contagious Disease.

These are given under “Skin diseases” and “Tuberculosis.”

V. Vaccination.

	Number examined.	No mark.	
		Number.	Per cent.
<i>Infants—</i>			
Boys	3,198	612	19·1
Girls	3,131	581	18·5
<i>9-year-olds—</i>			
Boys	2,766	427	15·4
Girls	2,791	397	14·2
<i>12-year-olds—</i>			
Boys	599	65	10·8
Girls	559	83	14·8
<i>Leavers—</i>			
Boys	1,100	170	15·4
Girls	1,196	155	12·9
<i>16-year-olds—</i>			
Boys	52	...	...
Girls	35	4	11·4
Total	15,427	2,494	16·1

Special Schools and Classes.

Special Schools.—The following is a list of the Special Schools and Classes which were open during the session, and the number of pupils on the roll at the close of the term :—

<i>For Mentally Defective Children—</i>		<i>For Physically Defective Children—</i>	
Balfour Place School	172	Clarebank School	134
Duncan Street School	92	Duncan Street School	68
St. John’s R.C. Classes (3)	70	Gorgie School	150
St. Nicholas School	97	Willowbrae School	111
	<u>431</u>		<u>463</u>

For Children suffering from Ringworm—

Lauriston Place School	<u>20</u>
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The number of educable defective children maintained by the Education Committee in certified Institutions was as under :—

	Boys.	Girls.
Baldovan	2	1
Larbert	3	1
Waverley Park . . . . .	...	1
St. Joseph's R.C.	3	4
Gogarburn	2	...
	<hr/> 10	<hr/> 7
	<hr/> 17 <hr/>	

3. BLIND AND PARTIALLY BLIND CHILDREN AND 4. DEAF AND MUTE CHILDREN.

Blind, Deaf-Mute, and Epileptic Children.—Blind and deaf-mute children are dealt with under the Education of Blind and Deaf-Mute Children (Scotland) Act, 1890, and epileptic children under the Education of Defective Children (Scotland) Act, 1906, as read with the Education Acts of 1908 and 1918. The Education Committee have no schools under their management for the education of such children, and they have, therefore, to be sent to special institutions. The following shows the number of children so maintained by the Education Committee as at the end of the session :—

	Boys.	Girls.
Royal Blind Asylum, Edinburgh	7	3
Deaf and Dumb Institution, Edinburgh	7	5
Donaldson's Hospital, Edinburgh	14	9
St. Vincent R.C. School, Glasgow . . . . .	...	1
	<hr/> 28	<hr/> 18
	<hr/> 46 <hr/>	

Blind Persons Act, 1920.—The Education Committee are responsible for the technical training at the Royal Blind Asylum workshops of 47 adult blind persons (31 men and 16 women). The training consists of basket-making, brush-making, and mat-making for men, and machine-knitting for women; in the case of special men trainees instruction in piano-tuning is given, and in the case of special women trainees instruction in massage.

5. PUPILS SUFFERING FROM RINGWORM.

Lauriston Place Special School.—This school has accommodation for 60 pupils, and during the session 74 attended, 50 being sent out cured. Of the 50 cases cured, 9 had X-ray treatment, 4 drug treatment, and 37 thallium acetate treatment, 4 left before treatment was completed.

6. SPECIAL SCHOOL AT CERES.

Ceres Special School.—This school, now transferred to Stichill, is carried on by the Education Committee under an arrangement with the Leith Holiday Home Committee, and had accommodation for 60 pupils.

The Education Committee, who are managers of the school and have complete control of the education of the children in residence, pay a sum to meet the cost of food and lodging for the children. A charge is made appropriate to the parents' circumstances in each case. There are three teachers, and 188 pupils attended during the session.

The majority of the children suffer from debility and anæmia, though a fair number are cases recovering from illnesses or operations.

7. ARRANGEMENTS FOR PHYSICAL EDUCATION AND PERSONAL HYGIENE OF CHILDREN.

A. PHYSICAL EDUCATION.

Physical education is included in the Syllabus of all the Education Committee's schools. In Elementary Schools the instruction is given by class and visiting teachers in accordance with the Board of Education Syllabuses of Physical Exercises, and Physical Exercises for Infant Classes. In Intermediate and Secondary Schools the instruction is given by specialist teachers of physical education. The staff consists of a Superintendent, Assistant Superintendent, and 27 Assistant Teachers (16 women and 11 men). The whole of the physical education, including Swimming, in both day and evening schools, is under the direct supervision of the Superintendent. All exercises, as far as possible, are carried out in the open air.

B. BATHS.

Swimming.

There are six School Baths and the staff consists of six teachers, including two women. In addition, six Corporation Baths and the services of the attendant Instructors are extensively utilised.

8. ARRANGEMENTS FOR FEEDING OF CHILDREN.

Under the Education Committee's scheme, dinners are supplied to three groups of children: (1) necessitous, supplied free; (2) pupils whose parents pay at the rate of 1½d. per dinner; (3) a special two-course dinner at a higher rate for Special Schools and some of the Secondary Schools.

The number of dinners sent out from the Cooking Centre was 990,471, and the average cost per meal was 1·1d. for food and 1·04d. for administration—Total, 2·14d. The total expenditure for the year to 15th May in connection with the Feeding Scheme was £8,909, 15s. 0d. The receipts amounted to £3,082, 12s. 11d. The net cost was £5,827, 2s. 1d.

9. ARRANGEMENTS FOR MEDICAL TREATMENT.

The medical treatment provided by the Education Committee is best described under two heads: (1) Work done at the Treatment Centres; (2) Arrangements made for the treatment of ringworm.

Clinics are held as under:—

1. Treatment Centres at 45 Lauriston Place, Edinburgh, and 5 Links Place, Leith.
2. Sub-Clinic at Prestonfield; Medical Officer and Nurse once weekly.
3. Nurses' Sub-Clinics for minor ailments at Dalry School, St. John's School and Regent Road School, two afternoons per week.
4. Nurses' Sub-Clinics at Special Schools (Balfour Place, Clarebank, Gorgie Special, St. Nicholas and St. Christopher's) twice weekly. A nurse attends daily at Willowbrae Special School.
5. Occupation Centre: Nurse once weekly.

The Staff at Lauriston Place Centre consists of: (1) Visiting Medical Officers; (2) Four Dentists, one Oculist, and one Aurist: all part-time; (3) Three whole-time nurses who assist the oculist, aurist, and dentists, and, in addition, carry out treatment for minor ailments; (4) One nurse for treatment of itch cases.

The Staff at Links Place Centre consists of: (1) Visiting Medical Officers; (2) two Dentists, one Oculist and one Aurist: all part-time; (3) two whole-time nurses who assist oculist, aurist, and dentists, and, in addition, carry out treatment for minor ailments; (4) an attendant for treatment of itch cases.

There is a Special School for pupils suffering from Ringworm at 41 Lauriston Place, where treatment is carried out by the nurse.

The number of pupils who attended the Treatment Centres during the session is as follows :—

	Lauriston Place Centre.		Links Place Centre.		Dalry Sub-Centre.		Regent Road Sub-Centre.		"Special Schools" Sub-Centres.	
	No. of Pupils.	No. of Attendances.	No. of Pupils.	No. of Attendances.	No. of Pupils.	No. of Attendances.	No. of Pupils.	No. of Attendances.	No. of Pupils.	No. of Attendances.
Examined by Oculist .	2,141	3,088	774	1,184	...	...	...	...	...	...
" " Aurist .	520	551	348	396	...	...	...	...	...	...
<i>Treatment—</i>										
External Eye Diseases .	428	3,737	187	2,028	34	155	50	162	82	818
Diseases of Ear .	266	1,962	47	752	15	159	26	206	51	854
Diseases of Skin and Minor Ailments .	812	4,727	511	2,394	472	1,373	249	706	497	2,016
Itch .	345	3,362	100	1,814	...	...	...	...	...	...
Fitting and Repair of Spectacles .	1,722	1,722	483	483	...	...	...	...	...	...
Defective Teeth .	3,966	4,212	1,548	2,042	...	...	...	...	...	...
Total .	10,200	23,361	3,998	11,093	521	1,687	325	1,074	630	3,688

Ringworm.—Children suffering from ringworm are treated at the Royal Infirmary by X-rays or Thallium Acetate. The nurse attached to the Special Skin School carries out the after-treatment of these cases.

Treatment of Scabies.—Provision is made at Lauriston Place and Links Place Treatment Centres for the treatment of scabies. Baths are fitted up, and a special nurse and attendant supervise the bathing and ointment treatment of the pupils. The pupils, their clothing, the house and bedding are disinfected when a cure is effected. The following are the results for the session, viz. :—*Lauriston Place Centre*—Number cured : boys, 177 ; girls, 168—Total, 345. The number of attendances made was : 3,362. *Links Place Centre*—Number cured : boys, 57 ; girls, 43—Total, 100. The number of attendances made was 1,814. The number of children bathed and disinfected at the Public Disinfecting Station was : boys, 137 ; girls, 139—Total, 276.

Defective Vision and External Eye Diseases.—The following are the Oculists' reports on cases of defective vision, etc., detected by school doctors in the different schools and referred for further examination.

Lauriston Place Treatment Centre.—Altogether 1,538 children were examined for defective vision, of whom 1,412 were found to require glasses. In 126 cases lenses were not prescribed, either owing to the error of refraction being only of slight degree or because, as some other disease of the eyes was present, little benefit would have been derived from glasses.

In addition to the children who attended for examination of their vision, a large number, 428, were treated for external diseases of the eyes, the total number of attendances for treatment being 3,737. The treatment is carried out by the school nurse, under the supervision of the oculist. In cases where the treatment could be carried out by the parents at home, they have been shown by the nurse how to apply it.

The following conditions were found to be present :—

	Girls.	Boys.	Total.
Myopia	101	89	190
Myopic Astigmatism	103	68	171
Hypermetropia	206	208	414
Hypermetropic Astigmatism	262	262	524
Mixed Astigmatism	62	42	104
Squint (internal)	186	223	409
Squint (external)	6	5	11
One Eye Amblyopic	36	46	82
Nystagmus	13	7	20

External Diseases of the Eye.

Blepharitis	109
Conjunctivitis	285
Diseases of Cornea	92
Diseases of Choroid	6
Other Conditions	188

including detachment of the retina, optic atrophy, vitreous opacities, ptosis, congenital cataract, trachoma, and pannus.

E. M. LITHGOW, M.B., Ch.B., F.R.C.S.E.

Links Place Treatment Centre.—In all, 774 cases were examined, making 1,184 attendances. A great proportion of these cases were pupils with defective vision. Lenses were not prescribed unless definite visual benefit or the relief of asthenoptic symptoms was likely to result. Lenses were prescribed for 489 pupils.

In addition to the above a large number of cases of external eye disease was seen. Treatment was carried out by the school nurse under the supervision of the oculist.

The following conditions were found to be present :—

	Girls.	Boys.	Total.
Myopia	51	55	106
Myopic Astigmatism	47	36	83
Hypermetropia	250	256	506
Hypermetropic Astigmatism	56	52	108
Mixed Astigmatism	34	32	66
Squint (internal)	90	97	187
Squint (external) . . . . .	...	...	...

External Diseases of the Eye.

Blepharitis	96
Conjunctivitis	160
Diseases of Cornea	77
Other Conditions	146

CHARLES W. GRAHAM, M.B., Ch.B., F.R.C.S.E.

Provision of Spectacles.—1,489 pairs of spectacles were supplied during the year by the Education Committee. 151 pairs were given free, 80 pairs were paid for by the Public Assistance Committee, while 1,258 were paid for by the parents.

REPORTS BY AURISTS.

Lauriston Place Treatment Centre.—There were 291 boys and 229 girls examined : the number of attendances for the session being 520.

The following conditions were found : impacted cerumen, 89 ; chronic otitis media suppurativa, 120 ; enlarged tonsils and adenoids, 367.

Palliative remedies are employed at the clinic, such as syringing for discharge, wax, and foreign bodies : douching of nose, politzerisation, etc. 1,962 attendances were made for treatment.

J. D. LITHGOW, M.B., C.M., F.R.C.S.E.

Links Place Treatment Centre.—There were 348 cases examined—168 girls and 180 boys.

The following conditions were found: enlarged tonsils and adenoids, 326—girls, 154; boys, 172; otitis media suppurativa, 124—girls, 44; boys, 80; other conditions, including accessory sinus suppuration, impacted wax, furunculosis, etc., 134—girls, 64; boys, 70.

A record has been kept of the number of children seen at the school clinic and recommended for tonsil and adenoid operations, and who have been operated on at the Ear and Throat Department, Leith Hospital. The cases totalled 272—girls, 124; boys, 148.

Those children examined after operation showed great improvement in their general condition and in their hearing, but it is regretted that there are no facilities in the schools for special breathing exercises for these cases, many of whom, unfortunately, still continue to mouth-breathe.

G. EWART MARTIN, M.A., M.B., Ch.B., F.R.C.S.E.

Defective Teeth.—The pupils selected this session for dental treatment were 6 years old, 9 years old, and 12 years old. The dentists visit the schools, examine all the children, and note on charts the condition of the teeth. Where attention is necessary, a card is sent to parents, and on their signing that they are unable otherwise to secure treatment, and that they consent to this being carried out, notices are issued telling them when to bring the child to the Treatment Centre.

The following is the record of work done at the Dental Clinics for the session:—
Schools visited:—88.

The total number of children who received dental attention was 5,514. It is often difficult to get parents to realise the importance of preventive measures. Most of the special cases have been sent by the medical staff: here, the ill-health or pain arising from bad teeth makes parents resort at once to treatment. Included in the special cases are many children who refused treatment when examined as routine cases at 6 or 9 years.

The number examined was:—

A. *Lauriston Place Treatment Centre.*—Boys, 5,557; Girls, 5,685—Total, 11,242.

There were also examined 202 children (Boys, 122; Girls, 80) attending Special Schools whose ages were other than 6, 9, and 12 years.

B. *Links Place Treatment Centre.*—Boys, 1,232; Girls, 1,236—Total, 2,468.

Condition of Teeth.—The condition of the teeth is noted in every case, and also the treatment necessary, extraction, filling, etc.

I. Numbers with Clean Mouths and no evidence of Dental Caries.

A. Boys, 1,163; Girls, 1,142—Total, 2,305 or 20·5 per cent. of number examined.

B. Boys, 283; Girls, 242—Total, 525 or 21·2 per cent. of number examined.

II. Numbers with Dental Caries.

A. 6-year-olds—Boys, 1,566; Girls, 1,508—3,074	} 8,937 or 79·4 per cent. of number examined.
9-year-olds—Boys, 1,713; Girls, 1,811—3,524	
12-year-olds—Boys, 1,115; Girls, 1,224—2,239	

B. 6-year-olds—Boys, 380; Girls, 367—747	} 1,943 or 78·8 per cent. of number examined.
9-year-olds—Boys, 369; Girls, 422—791	
12-year-olds—Boys, 181; Girls, 224—405	

The following Table gives the number of pupils in each age with carious teeth—
(a) four or less ; (b) more than four :—

	(a) With four or less Carious Teeth.			(b) With more than four Carious Teeth.		
	6 years.	9 years.	12 years.	6 years.	9 years.	12 years.
A. Boys	742	927	827	824	786	288
Girls	713	936	934	795	875	290
Total	1,455	1,863	1,761	1,619	1,661	578
B. Boys	207	282	168	150	107	13
Girls	219	343	156	192	82	24
Total	426	625	324	342	189	37
Grand Total	1,881	2,488	2,085	1,961	1,850	615

A. Of the 8,937 requiring dental treatment, 1,879 or 21·0 per cent. accepted the services of the school clinic.

It should be noted that the dentists visited, for inspection purposes, most of the outlying schools, where the number of acceptances for treatment was very small.

In addition to the above, 2,087 pupils—1,011 boys, 1,076 girls—were treated as special cases, so that in all 3,966 pupils received dental treatment.

B. Of the 1,943 requiring treatment 769 or 39·4 per cent. accepted the services of the school clinic.

In addition to the above, 779 pupils—383 boys, 396 girls—were treated as special cases, so that in all 1,548 pupils received treatment.

Analysis of Dental Treatment.

(a) Conservation.

	Teeth filled.		Teeth conserved by Treatment.		Total Number of Teeth conserved.
	Temporary.	Permanent.	Temporary.	Permanent.	
A. Boys	46	798	35	23	902
Girls	73	1,068	17	8	1,166
Total	119	1,866	52	31	2,068
B. Boys . . . . .	...	105	79	...	184
Girls . . . . .	...	96	84	9	189
Total . . . . .	...	201	163	9	373
Grand Total	119	2,067	215	40	2,441

(b) Extraction.

	Number of Teeth extracted.		Total.	Anæsthetics.
	Temporary.	Permanent.		
A. Boys	6,482	1,502	7,984	1,472
Girls	6,684	1,661	8,345	1,610
Total	13,166	3,163	16,329	3,082
B. Boys	1,478	469	1,947	840
Girls	1,374	547	1,921	711
Total	2,852	1,016	3,868	1,551
Grand Total	16,018	4,179	20,197	4,633

Note.—A refers to Dental Treatment at 45 Lauriston Place.

B refers to Dental Treatment at 5 Links Place, Leith.

EDINBURGH MERCHANT COMPANY'S SCHOOLS,
ROYAL HIGH SCHOOL AND EDINBURGH INSTITUTION.

By arrangement, pupils in the following schools are given the option of being examined by their family doctor or by the school medical officers :—Edinburgh Ladies' College, George Watson's Ladies' College, George Watson's Boys' College, Daniel Stewart's College and Edinburgh Institution. The results of the medical examinations for these and the Royal High School, which is under the Education Committee, are given below.

In each school the pupils examined belonged to four groups :—(1) Entrants, *i.e.*, pupils in their sixth year and all new entrants, of whatever age ; (2) pupils in their tenth year (age 9) ; (3) pupils in their thirteenth year (age 12) ; and (4) pupils in their seventeenth year (age 16).

	Edinburgh Ladies' College.		George Watson's Ladies' College.		George Watson's Boys.		Daniel Stewart's.		Royal High.		Edinburgh Institution.	
	No.	Per Cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Total number examined . . .	365	...	311	...	468	...	238	...	252	...	84	...
Examined by School Doctor . .	223	61.1	195	62.7	186	39.8	69	24.8	198	78.5	50	59.5
Examined by Family Doctor . .	142	38.9	116	37.3	282	60.2	169	75.2	54	21.5	34	40.5
<i>Teeth—</i>												
None decayed	255	69.9	228	73.3	247	52.8	137	57.6	78	30.9	64	76.2
1 to 5 „	90	24.7	67	21.5	194	41.4	88	36.9	157	62.3	18	21.4
6 to 10 „	20	5.4	16	5.1	27	5.8	13	5.5	17	6.8	2	2.4
Stoppings	115	31.5	102	32.8	96	20.5	30	12.3	54	21.4	23	27.4
<i>Visual Acuity—</i>												
$\frac{6}{6}$	321	87.9	283	91.0	422	90.2	220	92.5	213	84.6	74	88.1
$\frac{6}{6}$ — $\frac{6}{12}$	17	4.7	12	3.9	27	5.8	10	4.2	23	9.1	3	3.6
$\frac{6}{18}$ and above	27	7.4	16	5.1	19	4.0	8	3.3	16	3.3	7	8.3
<i>Eyes—</i>												
Wearing glasses	36	9.8	23	7.4	30	6.4	12	5.0	17	6.8	8	9.5
External Eye Diseases	6	1.6	9	2.9	3	0.6	...	...	...	...	...	...
Squint	5	1.3	2	0.7	8	1.7	5	2.1	9	3.4	...	...
<i>Deafness</i>	5	1.3	9	2.9	1	0.2	1	0.4	10	3.9	...	...
<i>Mouth Breathers</i>	10	2.7	12	3.8	4	0.8	5	2.1	4	1.6	...	...
<i>Tonsils—</i>												
Enlarged	87	23.8	77	24.7	57	12.1	39	16.4	45	17.8	8	9.5
Tonsils and Adenoids Operation	100	27.4	83	26.7	148	31.6	66	27.7	87	34.5	31	36.9
<i>Glands—</i>												
Enlarged	11	5.2	21	6.7	12	2.5	5	2.1	13	5.1	2	2.4
Cicatrices	4	1.1	9	2.9	9	1.9	1	0.4	1	0.4	...	...
<i>Heart—</i>												
Valvular	1	0.2	3	0.9	1	0.2	...	...	1	0.4	...	...
Impure Sounds	10	2.7	10	3.2	2	0.4	...	...	1	0.4	1	1.2
Irregular	5	1.3	4	1.2	...	...	...	...	...	...	...	...
Anæmia	6	1.6	6	1.9	1	0.2	1	0.4	...	...	...	...

SANITARY CONDITION OF SCHOOLS.

The following works were carried out during the Summer Vacation :—

Painter Work.—Complete *inside* painter work has been carried out at Balfour Place, Boroughmuir (2 lower flats), Craiglockhart, Dean, Hermitage Park, North Canongate (New Building), Towerbank, Torphichen Street, Trinity Academy (Main building), St. Patrick's, St. Mary's (Leith), Dr. Bell's, Gorgie and Longstone Schools.

Complete *outside* painter work has been carried out at Burdiehouse, Davie Street, Warrender Park, Lauriston Special, James Clark, London Street and St. John's Schools.

In addition to the foregoing the Sanitary Accommodation in every school has been washed down and touched up or painted as necessary : while in many schools odd staff-rooms, rooms in Janitors' Houses and the like have been painted.

Electric Installations.—Electric lighting, replacing gas has been installed at Blackhall, Cramond, St. Ann's Infant, and St. Ignatius' Schools.

New electric systems, replacing existing electric systems which were worn out, have been installed at Albion Road, Flora Stevenson's, Leith Academy Primary, Lorne Street, and Sciennes Schools.

The whole of the foregoing work was done under specification prepared by Mr W. F. Mitchell, Consulting Electrical Engineer.

Electric lighting replacing gas, has been installed at Janitors' Houses at Bruntsfield, Castlehill, and Darroch Schools.

This work was carried through by the Corporation Electricity Department.

Trough Closets have been replaced by modern individual closets at Dean School.

Galleries have been removed and level floors formed in classrooms in various schools. In each case this was only undertaken where the remainder of the floor in the same room was in need of renewal.

Infant Tables, Chairs, and Desks have been supplied in various schools.

Tar Macadam of playgrounds has been sprayed, patched, and in some cases extended at various schools. This work has been carried out by the Corporation Roads Department.

Boilers have been chipped, cleaned, and inspected by the Insurance Company Inspectors in every school in the City. Minor replacements arising out of the inspections have been carried out. In the cases of Bruntsfield and Broughton Schools a test was insisted upon by the Insurance Company concerned : this was carried out and under test, various of the fittings gave way and had to be replaced. The installations are now in accordance with Insurance requirements.

Plumber Work.—Cisterns have been emptied and cleaned, gas fittings, water taps, drinking fountains and the like overhauled and put in good condition throughout the schools. So far as possible the Janitors have done this work.

Where painting has been executed, plaster repairs, repairs to windows (pointing, overhauling of ropes, etc.), all of which items are contingent upon painting, have been carried out.

PORT SANITARY ADMINISTRATION.

The following is a report of the Port Sanitary Administration which has been prepared by Dr. Grierson, Assistant Medical Officer of Health.

Principal Trading Ports.—North American :—New York, Philadelphia, Portland, Baltimore, Montreal, San Francisco.

South American :—Buenos Aires, Bahia Blanca, Rosario.

Continental :—Stockholm, Helsingfors, Leningrad, Libau, Königsberg, Danzig, Stettin, Hamburg, Bremen, Copenhagen, Amsterdam, Rotterdam, Antwerp, Havre, Bordeaux, Oporto, Lisbon.

Mediterranean :—Marseilles, Oran, Bona, Tunis, Alexandria, Port Said.

Indian :—Karachi, Bombay, Calcutta, Rangoon.

Eastern :—Shanghai, etc.

The bulk of the foreign shipping comes from Continental Ports. In addition there is a large amount of coastwise shipping from Home Ports, besides the constant arrival of vessels in the fishing industry.

The number of ships entering the Port Sanitary District was 9,825, representing a tonnage of 2,734,000, a decrease of 557 vessels and 183,554 tons when compared with 1930.

AMOUNT OF SHIPPING ENTERING THE PORT SANITARY DISTRICT DURING THE YEAR 1931.

	Number.	Tonnage.	Number Inspected		Number reported to be defective.	Number of Notices issued.
			by the Assistant M.O.H.	by the Sanitary Inspector.		
Foreign { Steamers . . .	1,283	1,234,474	101	719	15	9
Motor . . .	26	33,630	4	19	...	...
Sailing . . .	...	...	...	...	...	...
Fishing . . .	1	69	...	1	...	...
Total Foreign . . .	1,310	1,268,173	105	739	15	9
Coastwise { Steamers . . .	5,117	1,190,076	7	194	4	1
Motor . . .	9	1,727	...	4	...	...
Sailing . . .	2	117	...	...	...	...
Fishing . . .	3,387	273,907	...	277	3	2
Total Coastwise . . .	8,515	1,465,827	7	475	7	3
Total Foreign and Coastwise	9,825	2,734,000	112	1,214	22	12

Imports and Exports.—The principal items of cargo imported at Leith consist of wheat, barley, oats, maize, rye, flour, meal, sugar, fruit, cement, timber, guano, manure, flax, hemp, fish (fresh and cured), butter, eggs, and esparto grass. Of these the chief import is grain. The exports are chiefly coal, iron, oil, liquor, and ammonia. Coal is the heaviest export.

Medical Inspection of Aliens.—During the year 1931, 788 alien passengers arrived at the Port. Of these, 418 were subjected to medical inspection at the request of H.M. Alien Immigration Officer. Permission to land was given to all of these passengers.

The alien passengers were classified as follows :—

CLASSIFICATION OF ALIEN PASSENGERS.

Resident returning.	In transit.	Visitors of Six Months or less.		Diplomats and persons on Foreign Government Missions.	Seamen.	Seamen under contract to join ship in British waters.	Ministry of Labour Permit.	Aliens coming to settle not holding M.L. Permit.
		On holiday, tourists, etc.	On Business.					
35	169	348	127	3	4	29	51	22

Cases of Illness.—During the year there were very few cases of illness reported from vessels arriving at the Port. The only one of any consequence was a sailor who was found to be suffering from para typhoid B. fever, which he had apparently contracted while in a Continental port. This man was removed to hospital and made a successful recovery.

Ship Inspection and Fumigation.—The routine inspection of ships is carried out as soon as possible after docking, and was described in detail in last year's report. Inspection in terms of the International Sanitary Convention of 1926 is also systematically undertaken. During the year 58 Deratisation and 117 Deratisation Exemption Certificates were issued. The increase in the number of the latter certificates granted indicates that rats are being kept down to a minimum in a greater number of ships.

The fumigation of ships throughout the year was done by means of Cyanogen Chloride and proved highly satisfactory. Many owners have availed themselves of this method of fumigation of certain parts of their ships for the repression of vermin other than rats.

Details of the sanitary inspection of crews' quarters and of the measures taken for rat repression will be found in the report of the Chief Sanitary Inspector, along with the yearly table of nuisances discovered, etc.

It has to be recorded that as in former years placards in connection with venereal disease are maintained in selected places in the Docks. These are printed in English, Norwegian, Dutch, and German, and draw the attention of seamen and dockers to the existence and location of the Seamen's Dispensary at the Shore, where skilled treatment may be obtained.

FACTORY AND WORKSHOP ACTS.

WORKSHOPS.

The Medical Officer of Health is required to report annually on the administration of the Factory and Workshop Acts within his district, and a complete summary of the work done during the year appears on pages 128-129.

The following comments are supplementary to the statistical report already furnished to the Home Office.

In spite of the discouraging condition of trade and the financial stringency which prevailed throughout the year, numerous instances are recorded of expenditure in structural improvements, of the introduction of amenities into Factories and Workshops, and of steady progress in improving the sanitary condition of these places.

Compliance with the statutory duty of limewashing walls and ceilings has been well maintained, and in many instances notable improvements have been carried out. In a few cases, however, the neglect of this duty was attributed to the high cost of the work, combined with the need for exercising the strictest economy during a period of bad trade. On the other hand, instances have occurred where employers used the slackness in ordinary work as an opportunity of finding employment for some of their men in thoroughly limewashing and cleaning their premises. Undoubtedly, the salutary effect of clean walls is being appreciated. Many occupiers have gone a stage further and carried out harmonious colour schemes which form a pleasing departure from the monotony of white.

Floors would seem to be more frequently neglected than walls, and on many occasions complaint had to be made regarding unclean floors. If the floor is covered with sawdust, shavings, or cloth cuttings, this has not been reckoned as being dirty, provided the accumulations are regularly cleaned up, as is usually the case, but it has been found that the floors of some engineering, metal working, and joinery workshops are rarely cleansed unless it becomes necessary for trade purposes.

The paramount importance of fresh air as an essential to good healthy working conditions is always being urged. There is still, however, some divergence of opinion among workers, as well as employers, as to the ideal temperature for different occupations.

In regard to the proper care and maintenance of sanitary accommodation, comment must be made on the somewhat low standard so often found. The difficulty of maintaining the accommodation in a cleanly condition tends to be accentuated where fittings are used in common by different sets of workers. Undoubtedly the question resolves itself mainly into one of strict supervision. The most common irregularities in construction are defective lighting (natural and artificial) insufficient screening or separate approaches to secure privacy, obsolete fittings, and the failure to provide an intervening ventilated lobby between the convenience and the workshop.

BAKEHOUSES.

There is a steady increase in the number of Factory Bakehouses consequent on the installation of electric power. As a result of competition from the rationalised bakeries with their ever-increasing output and fewer craftsmen employed, the older places have shown a general improvement, though examples are still plentiful of failure to clean furniture and appliances, floors, machines, and the like. An objectionable practice sometimes found is that spilt flour and other sweepings are stowed under the troughs at the end of each shift instead of being removed. This is merely providing food for vermin, besides being an offence to the eye. There is no reason why floors, if properly constructed, should not be frequently and regularly scraped and cleansed.

Special attention has been directed to the sections of the Factory Act relating to Bakehouses, the administration of which was transferred to Local Authorities by the Scottish Board of Health (Factories and Workshops Transfer of Power) Order, 1921. In 29 instances the statutory period for limewashing was exceeded, but on written notice being given the irregularities were remedied.

The modern hygienic bakery forms a striking contrast to the old underground type. In the former the building is constructed under modern building laws which ensure an excellently built and well-finished structure. The floors are generally of concrete and the walls cement-faced and damp proof. Under these conditions adequate ventilation, lighting, and cleanliness are readily maintained. On the other hand underground bakehouses are handicapped by antiquated and wholly unsuitable buildings, and constant pressure is needed to secure a better average standard in these places. Constructional conditions below ground level often render it impossible to obtain good lighting, ventilation, and sanitary conditions, and if a reasonable standard in these respects is obtained, it is usually the result of methodical attention on the part of the occupier.

Many underground bakehouses are situated immediately below the ground flats of tenement dwellings, and the work carried on is connected with and essential to the shop situated above. There is usually a side entrance to the bakehouse in the adjoining common passage which leads to the dwellings above, and complaints are occasionally made by residents of fumes and strong odours of baking finding their way into the houses. This nuisance is often extremely difficult to deal with owing to structural considerations.

The opinion that such places are not desirable would hardly be contested, but for various reasons their use will have to be continued for the present, and indeed, in view of legal requirements and other difficulties, cannot be altogether avoided.

Total Number of Inspections of Factories and Workshops	1,707
Number of Written Notices served	132
Complaints received from H.M. District Inspector of Factories as remediable under the Public Health Act, but not under the Factory Act	6
Complaints <i>re</i> Sanitary Accommodation (Structural Work) for Factories and Workshops, Intimations received by Local Authority from District Inspector of Factories in order that the Council may have opportunity of enforcing any additional conditions under Local Acts—Work carried out, inspected and reported upon	10
Notices received from H.M. District Inspector of Factories (for the information of Local Authority) <i>re</i> Bakehouses—Scottish Board of Health (Factories and Workshops Transfer of Powers) Order, 1921	2
Miscellaneous Complaints :—	
Received from other Departments	3
Anonymous	1
Received from Public	8
	—
	12
Matters referred to H.M. District Inspector of Factories for his attention	6
Number of Notices of Occupation of Workshops received from H.M. District Inspector of Factories for the year 1931	5

HOME WORK—LIST OF OUTWORKERS.

	Feb. 1931.	Aug. 1931.
Number of Lists received	39	37
Number of addresses of Outworkers in Edinburgh	84	79
Number of addresses transmitted to other Authorities	15	15
Number of addresses received from other Authorities	5	3
Actual Number of Outworkers on Register, at date of last Returns ...		43

CLASSES OF WORK ENGAGED IN BY OUTWORKERS IN EDINBURGH.

- (1) Making, altering, repairing, etc., of Wearing Apparel.
- (2) Making up, finishing, and repairing of Table Linen, etc.
- (3) Making, ornamenting, mending, and finishing of lace and of lace curtains, etc.
- (4) The weaving of any textile fabric or any processes incidental to the latter.

TABLE showing the distribution of Bakehouses throughout the City, the irregularities and defects found and remedied, and the general improvements in 1931.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.	XVI.	XVII.	XVIII.	XIX.	XX.	XXI.	XXII.	XXIII.	Corstorphine and Craigmoad.	Total.
Number of Bakehouses on Register at 31st December 1931 :—	4	6	9	5	8	9	5	4	6	7	7	10	10	11	13	8	8	8	6	5	3	2	2	2	156
Underground	3	2	3	4	5	2	2	...	2	5	3	5	5	6	6	5	4	3	...	1	...	...	...	...	66
Level	1	4	6	1	3	7	3	4	4	2	4	5	5	5	7	3	4	5	6	4	3	2	2	...	90
Factories	3	4	7	5	6	8	4	4	6	4	5	8	9	9	7	6	7	5	4	5	1	2	2	...	121
Workshops	1	2	2	...	2	1	1	...	...	3	2	2	1	2	6	2	1	3	2	...	2	...	...	...	35
Premises converted into factories during the year by the introduction of Electrical Machinery . . . . .	...	1	...	1	...	...	...	...	...	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	6
Number of Inspections made	10	13	22	21	19	26	13	9	13	15	15	21	23	38	29	19	17	26	12	10	6	4	6	...	387
Electric Lighting installed in Bakehouses or improved artificial lighting of Lobbies, etc.	...	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	...	4
Floors (relaid or repaired), Courtyard Surfacing, Walls (internal and external), Ceilings, Roofs, Windows, Stairways, Outhouses, etc., of Bakehouses and W.C. Compartments—repairs effected and general improvements . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Improved Lighting and/or Ventilation provided	...	2	4	5	3	2	3	...	1	1	1	1	1	2	2	...	1	3	1	...	...	...	1	...	34
Statutory period for Linewashing exceeded, or Linewashing unsatisfactory . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2
Storing Material where liable to contamination	1	...	2	...	...	2	1	2	...	1	...	3	...	3	3	2	1	3	...	1	...	1	...	...	29
Bakehouse closed—unsatisfactory premises . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Dirty Courtyards, Floors, Windows, Furniture, Fittings, etc.	1	1	1	1	...	2	...	...	4	1	2	2	3	2	...	4	5	3	1	1	...	...	...	...	37
Dirty W.C. Basins and Floors . . . . .	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	2	...	...	...	...	...	...	4
Bakehouse Insect Pests exterminated . . . . .	...	1	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	5
Accumulations of Refuse, or old scrap material (wire trays, tins, etc.), removed	1	...	...	1	...	...	...	...	2	...	...	...	1	1	1	1	...	1	...	...	...	...	...	...	9
Miscellaneous Nuisances or complaints—flumes entering Dwelling-Houses . . . . .	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2
Washing Facilities for Workers provided . . . . .	...	...	1	...	1	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5
Additional Washing Facilities introduced . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Hot Water Service installed and laid on to fittings serving as Washing Facilities . . . . .	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	3
“ Main ” Water Supply introduced . . . . .	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Drains, Waterpipes, R.W. Conductors, etc., repaired . . . . .	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	5
Sinks—Chokes cleared, repaired, renewed, improved or introduced. { Intervening Ventilated Space provided	...	...	2	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4
Water-Closet Pedestals renewed { Water-Closet Pedestals renewed	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2
Defective W.C.'s or Flushing apparatus { Defective W.C.'s or Flushing apparatus	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Sanitary Accommodation { Separate Sanitary Accommodation for sexes provided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Matters reported to other Departments for attention . . . . .	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	1
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3

SANITARY DEPARTMENT,
PUBLIC HEALTH CHAMBERS,
JOHNSTON TERRACE,
EDINBURGH, *April 1932.*

To

*The Department of Health for Scotland and
The Right Honourable the Lord Provost,
Magistrates, and Council of the City of Edinburgh.*

MY LORD PROVOST AND GENTLEMEN,

I have the honour to present the Annual Report of the Sanitary Department of the City of Edinburgh for the year 1931.

H O U S I N G.

Improvement Schemes.—It may be recalled that in pursuance of their powers under the Housing Acts the Corporation, since year 1923, have promoted several large slum clearance schemes in various congested parts of the City involving in all 3,897 houses with a total population of 12,423 persons. These schemes were as follows :—

Scheme.	Number of Houses dealt with.	Population.
Cowgate-Grassmarket, 1923	630	1,429
Leith, 1924	678	2,444
Canongate-Corstorphine, 1927	293	556
St. Leonard's (First Section), 1927	752	2,619
St. Leonard's (Second Section), 1929	1,544	5,375
Totals	3,897	12,423

As the last-mentioned scheme and the largest yet undertaken is still in progress, it has not been possible to promote any new clearance schemes during the past year. The statistics relative to a number of the other insanitary areas, which had been previously surveyed, have been compared, and an order of precedence for future treatment arranged. Those groups comprise a total number of 6,874 houses.

Much publicity has been given recently to groups of insanitary houses in certain parts of the City, but this has only confirmed the reports made by this Department to the Local Authority at various times during the past few years. Private surveys cannot bring to light any insanitary areas which are not already known to the Local Authority; and, while it is acknowledged that the conditions in those districts are undoubtedly bad, it must be stated that the housing conditions in some of the other districts are much worse, and must of necessity receive priority of attention. Complaints are received almost daily from occupiers of insanitary houses in the Canongate and Leith areas and in many instances the defects are irremediable and can only be dealt with by clearance schemes. The conditions in these Wards are aggravated by the narrowness of the closes and the existence of back-land properties. Many of the buildings are very old and dilapidated and, in addition, nearly all the properties suffer from over-subdivision, insufficient sanitary accommodation and dark and unventilated common lobbies. These facts emphasise the importance of immediately proceeding with schemes for these areas.

The experience in carrying out St. Leonard's (Second Section) Improvement Scheme has shown that the handling of schemes of such large dimensions, while hastening the preliminary stages and saving expense at the Inquiry, definitely retards the carrying out of the later stages. It is, therefore, suggested that future schemes should be smaller

in order to obtain greater speed both in clearing the areas and in rehousing the occupants. A report is being prepared to show how a continuous programme could be satisfactorily carried out over a period of years, allowing the various smaller areas, which have been listed, to be proceeded with almost simultaneously with the larger schemes.

Good progress is being made with the demolition of old buildings and the erection of new tenements in the St. Leonard's (First Section) and the Canongate-Corstorphine Improvement Schemes, and it is gratifying to note the greatly improved aspect of those districts. As the beneficial effects of those schemes are more and more revealed, the desirability is increasingly emphasised of sparing no effort until all the insanitary areas in the City have been wiped out.

Supervision of re-Housing Areas.—The supervision of the new houses in the rehousing areas has been constantly carried out by the Women Sanitary Inspectors with a view to having them kept clean and in proper order, and preventing overcrowding and subletting. Altogether, 7,868 visits have been made to these houses. The gratifying improvement in the general conditions, referred to in previous reports, brought about by this regular and systematic visitation, continues. Except in a few instances the houses and gardens are well attended to and there is evidence of a splendid spirit of emulation amongst the tenants.

Before transferring tenants from vermin-infested houses in the old areas, an effort is made to prevent the vermin being conveyed to the new houses by having the furnishings, bedding, clothing, etc., disinfected. While in most cases this has the desired effect, bugs have been observed in the new houses in a number of instances. It is found that this is sometimes due to the tenants acquiring second-hand furnishings after they have settled down in their new homes. These cases are immediately dealt with by stripping surface woodwork and spraying the ceilings, walls and floors with a strong insecticide.

Individual Uninhabitable Houses.—In terms of the Housing (Inspection of District) Regulations (Scotland), 1928, 4,679 houses were inspected, and as a result, 1,675 have been added to the list of houses for proposed clearance areas, while 2,229 will fall to be dealt with as individual insanitary houses. The latter group consists mainly of one and two-apartment houses situated in otherwise good tenements, and a fair proportion comprise area-flat houses.

Great difficulty has been experienced in making closing orders owing to the lack of alternative accommodation for the tenants. Representations were made to the Local Authority respecting 92 houses, and closing or demolition orders were made on 47 of these, the remainder being delayed for further consideration. In addition 18 houses were closed voluntarily by the owners, while assurances were given by a considerable number of owners that their houses would not be relet when the present tenants remove; but here again the difficulty lies in obtaining alternative accommodation. In this connection an arrangement has been made whereby applications for Corporation houses by occupiers of insanitary and overcrowded houses are referred to this Department for classification as to their degree of urgency. As pointed out in previous reports progress with the closure and demolition of individual insanitary houses depends on a sufficient allocation of alternative accommodation over a limited period of years.

Housing Repairs and Improvements.—While numerous houses have been rendered fit for human habitation by the execution of repairs, the carrying out of structural improvements which are of a more substantial nature has been somewhat held up. This may be attributed to two main causes, namely, (1) the financial difficulties of the owners, which have been increased by the economic stress of the past year, and (2) the difficulty of finding alternative accommodation for those tenants who are obliged to remove from their present houses to permit of such conditions as over-subdivision,

the back-to-back arrangement of the houses and the want of modern sanitary accommodation being remedied. In several instances plans for the necessary improvements have been approved many months ago, and all that is required for the work to proceed is the removal of the tenants.

Repairs to 214 floors, hearths, doors, partitions, etc., 192 walls and ceilings, 164 windows and skylights, 54 defective roofs, 65 grates or ranges and 47 coal bunkers were carried out. Dampness was abated in 48 houses.

Rural Housing Improvements.—Under the Housing (Rural Workers) Acts, 1926 and 1931, applications for financial grants were made by the owners of 100 farm and other rural cottages. Of that number 72 were granted and at the end of the year improvements had been effected in 46 instances, the remaining 26 being in progress. These improvements included the provision of bathrooms, sculleries, drainage, improved lighting and repairs to floors, walls, roofs, etc.

In order to ascertain the state of cleanliness in the dwellings of farm workers, visits were paid by the Women Sanitary Inspectors to the cottages of these workers in the districts of Liberton, Corstorphine, Colinton, and Cramond. In all, 164 visits were made. On the whole the conditions were found to be satisfactory, although in a few instances they were not up to the standard. Revisits, however, showed considerable improvement.

NUISANCES AND SANITARY IMPROVEMENTS.

Despite the stringent financial situation, good progress was made during the year in improving the sanitary condition of houses and their environment. Thus, in 138 instances new waterclosets were introduced, either to make up a deficiency or to replace those of antiquated type, and 277 were improved or repaired; 194 earthenware sinks and tubs were introduced either where these were absent or to replace defective appliances, and repairs to woodwork around sinks were effected in 253 instances; renewals or repairs of drainage were effected at 45 properties; and 42 soil pipes, 100 waste pipes and 32 rain-water conductors were repaired or renewed.

The use of waterclosets in common by a number of tenants leads to much neglect in regard to the care and cleanliness of these appliances and nuisance and damage frequently occur. Altogether 146 choked waterclosets, 100 choked sinks, wash tubs, etc., 114 choked surface traps and 639 choked drains had to be brought to the notice of the parties responsible and cleared.

The Table showing the number of sanitary conveniences used in common has been brought up to date as follows:—

	Number used in common by the Tenants of									Total Number of Conveniences.	Total Number of Houses.
	2 Houses.	3 Houses.	4 Houses.	5 Houses.	6 Houses.	7 Houses.	8 Houses.	9 Houses.	16 Houses.		
Common Waterclosets	4,437	1,415	738	120	50	3	3	...	...	6,766	17,016
Common Sinks . . .	356	314	191	50	18	5	2	...	...	936	2,827
Number of houses without Sink or water supply within the house and without the use of a common Sink . . .	...	...	...	...	...	...	...	...	...	...	717
Dry Closets . . .	106	7	4	2	...	...	...	...	...	119	259
Privy Middens . . .	...	...	...	...	...	...	...	...	6	6	96
Ashpits . . .	16	6	8	5	3	1	1	1	...	41	149

There remain 326 dry closets (inclusive of the number referred to in the above table as being used in common) and 6 privy middens. This is a decrease of 22 dry closets and 1 privy midden as compared with last year. These conveniences are mostly situated on the outskirts of the City where sewers have not been provided. On account of the demolition of property under the various housing improvement schemes, and improvements effected at other properties, the number of houses where waterclosets were used in common was reduced by 71 and the number where sinks were used in common was reduced by 10. The number of houses without sink or water supply within the house and without the use of a common sink has been reduced by 59.

In connection with the water supply, 76 water pipes were repaired, 17 branches were taken off the main supply pipes and 53 cisterns were repaired or renewed at the instigation of this Department. In addition, the examination of 54,953 cisterns, undertaken by the Inspectors of the Water Department, showed that 2,068 were dirty and 87 without covers. Notices were sent by this Department to the parties concerned.

In 115 houses defective or obstructed vents, giving rise to smoke, were improved ; and nuisances arising from escapes of gas, dead vermin, etc., were remedied in 118 houses. Complaints of flooding in houses were found in 59 cases to be due to defects in the fittings of flats above or to burst pipes.

Nuisance committed in common stairs and back-greens by dogs and cats was complained of on 171 occasions and on 44 occasions to the keeping of animals and poultry within or in close proximity to dwellings.

In the course of the inspection of dwelling-houses the floors and bedding in 197 instances were found to be dirty and the tenants were required to carry out the necessary cleansing. The owners or occupiers of 349 houses were required to carry out distempering papering or painting of the walls and ceilings.

Gratifying improvement continues to be observed in the cleanliness of dwelling-houses. The systematic inspection of the smaller houses and the imparting of hygienic knowledge to the occupiers is bearing good results and, even in adverse conditions, domestic cleanliness is becoming more and more a matter of first consideration. One is impressed by the wonderful energy and enthusiasm of housewives in all parts of the City in their Christmas and Spring cleaning operations. In many cases this not only includes a thorough cleansing of all the apartments and furnishings, but also a renewal of the painting and papering. In this connection it is most pleasing to note the wise choice of lighter colours of paint and more artistic wall papers, which does much to brighten the interiors of the homes.

A survey of the common stairs throughout the City and the service of notices upon the owners where painting was required resulted in 1,292 staircases being painted. The sweeping and washing of stairs and passages was found in 1,779 instances to have been neglected and insistence on compliance with the regulations had to be made.

In consequence of the continued practice of casting garbage out of windows on to back courts, areas and roofs of out-buildings, and the depositing of refuse in cellars, vacant houses and other odd corners, 2,727 accumulations of garbage and filth in those places had to be removed either by the owners or the Cleansing Department. Warnings were given to the occupiers concerned and in one case a prosecution was taken in the Police Court against an offender.

Ticketed Houses.—These small houses are visited regularly by the Women Sanitary Inspectors and at the same time visits are made to “unticketed” houses in the immediate vicinity. The steady improvement, as a result of this supervision, noted in previous years, continues. During these visits opportunity is taken to give help, advice and encouragement in the furthering of cleanly habits and improving domestic hygiene. Altogether 15,350 visits were made.

OVERCROWDING.

The total number of recorded cases of overcrowding was 1,551, this being an increase of 191 compared with last year. In 368 instances the overcrowding was abated and of this number 102 were provided with Corporation Houses.

While much of the overcrowding was caused by the size of the family in residence, in 134 cases it was either due to or aggravated by the keeping of lodgers or the sub-letting of rooms to other families.

Of the 1,551 overcrowded houses found, 911 were of one apartment, 608 of two apartments, and 32 of three apartments and over.

In 197 instances the available space per person had been reduced to below 200 cubic feet, being less than half of what has been recognised as a very low standard, namely, 400 cubic feet.

In individual cases the available space had been reduced to the extremely low figure of from 90 to 139 cubic feet per person.

The following are a few examples of the conditions found :—

(a) A small one-apartment house in Leith, suitable for 2 persons, was found to be occupied by a man, his wife and family of 4 daughters, aged 15, 13, 5 and 2 years, and 3 sons, aged 17, 11 and 7 years, making a total of 9 persons.

(b) A one-apartment house in the centre of the City, with accommodation for not more than 4 persons, was found to be occupied by a tenant, his wife and family of 4 daughters, aged 19 years, 10 years, 6 years, and 5 months, and 5 sons whose ages ranged from 2 to 18 years, making a total of 11 persons.

(c) A two-apartment house in the south side of the City with accommodation for 5 persons, was found to be occupied by the tenant, his wife and family of 4 daughters, aged 17, 16, 11 and 7 years, and 6 sons, whose ages ranged from 4 to 22 years, making a total of 12 persons.

(d) A two-apartment house in Leith suitable for 7 persons was found to be occupied by a man, his wife and family, 5 daughters and 7 sons, whose respective ages ranged from 3 to 24 years, also 2 girl lodgers, aged 20 and 23 years respectively, making a total of 16 persons.

Special Overcrowding Surveys.—Surveys, on similar lines to that carried out in Wardlaw district last year, were completed in the Fountainbridge-Dundee Street district of Dalry Ward and in part of Leith. Hitherto, overcrowding has been determined on a cubic space standard, namely, 400 cubic feet per person irrespective of the age and sex of the occupants.

The standards used in the surveys were as follows :—

- (1) 400 cubic feet per person.
- (2) Proper sex separation.
- (3) (a) Not more than 2 persons per room, or
(b) Not more than 3 persons per room.

The Dalry survey comprised 1,146 houses (153 of one apartment, 877 of two apartments, 112 of three apartments, and 4 of four apartments), with a population of 4,556, showing an average of 3·97 persons per house. It was found that 93 houses (or 8·2 per cent.) were overcrowded according to the cubic space standard; there was want of proper sex separation in 227 houses (or 19·79 per cent.); there were more than two persons per room in 325 houses (or 28·35 per cent.), and there were more than three persons per room in 85 houses (or 7·42 per cent.). It was also ascertained that in 191 of the houses (or 16·66 per cent.) where there were more than two persons per room, the overcrowding was associated with the want of proper sex separation. Lodgers were kept in 25 instances and sub-tenants in 29.

The Leith survey comprised 1,848 houses (138 of one apartment, 1,386 of two apartments, 284 of three apartments, and 40 of four apartments), with a population of 7,996, showing an average of 4·33 persons per house. It was found that 180 houses

(or 9·74 per cent.) were overcrowded according to the cubic space standard ; there was want of proper sex separation in 383 houses (or 20·72 per cent.) ; there were more than two persons per room in 542 houses (or 29·33 per cent.) ; and there were more than three persons per room in 144 houses (or 7·78 per cent.). It was also ascertained that in 327 of the houses (or 17·69 per cent.), where there were more than three persons per room, the overcrowding was associated with the want of proper sex separation. Lodgers were kept in 56 instances and sub-tenants in 68.

The results of the surveys in the Wardlaw, Dalry and Leith districts are summarised in the following Tables :—

SUMMARY OF OVERCROWDING IN ALL THREE AREAS.

STANDARDS.	WARDLAW DISTRICT.		DALRY DISTRICT.		LEITH DISTRICT.		TOTALS.	
	No.	Per centage.	No.	Per centage.	No.	Per centage.	No.	Per centage.
Total number of houses . . .	1,395	...	1,146	...	1,848	...	4,389	...
Under legal standard . . .	59	4·23	93	8·20	180	9·74	332	7·56
Want of proper sex separation .	275	19·64	227	19·79	383	20·72	885	20·16
More than 2 persons per room .	417	29·81	325	28·35	542	29·33	1,284	29·25
More than 3 persons per room .	79	5·60	85	7·42	144	7·78	308	7·02
More than 2 persons per room plus want of proper sex separation	248	17·77	191	16·66	327	17·69	766	17·43
Keeping of subtenants (excluding lodgers)	96	6·88	29	2·53	68	3·67	193	4·39

SUMMARY OF OVERCROWDING IN ONE-APARTMENT AND TWO-APARTMENT HOUSES.

Size of Houses.	Total No. Surveyed.	Under Legal Standard.		Want of Proper Sex Separation.		More than 2 Persons per Room.		More than 3 Persons per Room.	
		No.	Percentage.	No.	Percentage.	No.	Percentage.	No.	Percentage.
1 apt.	295	57	19·32	53	17·89	111	37·63	52	17·63
2 apts.	3,440	268	7·79	824	23·95	1,082	31·45	252	7·03

From the results of these surveys in three districts of the City, it would appear that overcrowding throughout the City is of frequent occurrence, especially in the smaller houses. The percentage of overcrowding in the three and four-apartment houses is relatively low and therefore these houses have been omitted in estimating the extent of the overcrowding.

Applying the ratio obtained in the surveys to one and two-apartment houses in the City, exclusive of those in proposed clearance areas, it would appear that approximately 3,000 are overcrowded according to the cubic space standard ; 7,500 have a want of proper sex separation, and 10,500 have more than two persons per room. It would also appear that in houses of four apartments and under, subletting is taking place in approximately 3,000 instances.

It is difficult to estimate how many new houses will be necessary to abate overcrowding as there are several factors to be considered. For instance, the number of houses required will be reduced by the filtration or "stepping-up" process which will take place in the course of re-housing. Tenants of overcrowded two-apartment houses will transfer to vacated three-apartment houses, and similarly, tenants of one-apartment

dwellings will step up to vacated two-apartment houses. Again, about seven per cent. of the overcrowding was caused by sub-tenants, and if these were removed, the total number of overcrowded houses would be correspondingly reduced. It would still appear, however, that a very considerable number of houses will be required to abate overcrowding and eliminate subletting.

These surveys again emphasised the need for new standards for overcrowding as suggested in last year's Annual Report. Since the first survey (Wardlaw district) was made, the Department of Health for Scotland have issued suggested bye-laws relative to overcrowding in Improvement areas. These bye-laws show standards similar to those used in the aforementioned surveys and it is suggested that bye-laws covering such matters should be framed and brought into operation throughout the City.

A survey, which received much publicity, was made recently in the north side of the City by an outside body. This survey showed slightly higher percentages than the Wardlaw, Dalry, and Leith surveys, but it must be borne in mind that in this unofficial survey only 443 chosen houses in a wide area were visited, whereas in the official surveys, every house in a prescribed district (containing in each case more than 1,000 houses), was visited and a fairer average arrived at by taking the good with the bad. It would be possible to select 400 or 500 houses throughout the City to show a hundred per cent. overcrowding under the various standards but this would not be representative of the extent of overcrowding in the City. This unofficial survey, therefore, has only emphasised the need for new standards. The reporters in their conclusions about overcrowding have but reiterated the standards suggested in the Annual Report of this Department for 1930.

VERMIN REPRESSION.

Verminous Children.—During the year 215 cases involving 317 children were notified by the Education officials and in connection therewith 36 beds and 348 sets of personal clothing were disinfected, and 235 children were bathed at the City Disinfecting Station.

Verminous Houses.—373 houses, which were found in a verminous condition, were dealt with and 74 sets of bedding were removed to the City Disinfector for treatment.

Rat Destruction.—The co-operation with this Department by owners and occupiers of houses was again found helpful in rat destruction. This branch of work received constant attention. During the year 294 complaints were investigated and repeated visits were made to infested premises. Altogether 240 premises, which were known to be infested, were cleared of the vermin. Apart from the work privately carried out, gassing operations were undertaken by the staff of this section, and 4,374 poison baits were laid in cellars, banks of streams and vacant properties.

The Local Authority co-operated with the Department of Agriculture in an intensive campaign of rat destruction during Rat Week, with beneficial results.

INCREASE OF RENT, ETC., ACTS.

Thirteen applications were received from occupiers of houses for certificates in terms of the Rent and Mortgage Interest (Restrictions) Acts, 1920-23, that their houses were not in all respects in a reasonable state of repair.

Only in three of the houses was the disrepair such that certificates could be granted.

Repairs were effected after notices had been sent to the owners.

LODGING HOUSES.

Common Lodging Houses.—At the beginning of the year there were 17 common lodging houses with accommodation for 2,162 persons. Thirteen of these were occupied by male and four by female lodgers. All the houses are privately owned with the exception of one situated in the Leith area owned by the Corporation.

Farmed-Out Houses.—The farmed-out houses at the beginning of the year numbered 72, with accommodation for 259 persons. During the year 15 houses, with accommodation for 58 persons, were removed from the register on account of their uninhabitable condition, the owners having given an undertaking under the Housing (Scotland) Act, 1930, to close the houses when vacated.

Houses Let-in-Lodgings.—There were 18 houses let-in-lodgings, with accommodation for 648 persons, at the beginning of the year. During the year 2 houses accommodating 25 persons were removed from the register, the use of the premises for this purpose having been discontinued.

These lodging houses are regularly inspected by day and night and any irregularities discovered are immediately intimated to those responsible.

ACCOMMODATION FOR SEASONAL WORKERS.

The number of farmers employing seasonal workers last summer was 20, and the number of workers approximately 466. The workers are accommodated in huts or barns which before being used must comply with the requirements of the Bye-laws. Visits were regularly paid by the Inspectors, both by day and by night, to ascertain if the Bye-laws were being observed, and any irregularities were brought to the notice of those responsible and immediately rectified.

PLACES OF PUBLIC ENTERTAINMENT.

Picture houses, theatres and other places of public entertainment were regularly visited by the Inspectors and in some instances the atmospheric conditions were tested by means of the Kata-thermometer. As a rule the cleanliness and sanitation was found to be of a high standard and any matters requiring attention were immediately remedied by the management.

The tendency to keep the temperature too high was still obvious in certain places, and while this may be difficult to overcome in those premises where reliance is placed on simple inlet and outlet ventilation, there is no reason why temperatures of more than 62 degrees Fahrenheit should be maintained in premises where the heating and ventilation are mechanically controlled.

SMOKE ABATEMENT.

This aspect of environmental hygiene demands more attention than it has hitherto received. While the benefits of good housing, pure and ample water supply, modern sanitary arrangements, efficient cleansing and pure and wholesome food have become more generally realised, yet the securing of pure air, which is so essential for the maintenance of life, has failed to receive that consideration which it merits.

In recent years, of course, much improvement in clarifying the atmosphere of the City has been effected by the efforts of the Department and in other ways. According to the last report of the Department of Scientific and Industrial Research, there is less pollution of the atmosphere from smoke in Edinburgh than in most of the other cities in the Kingdom. In part this may be due to the fact that there are fewer industries in Edinburgh and that it is a wind-swept city. Observation has shown that during windy weather the City is remarkably free from smoke.

The atmosphere, however, is still grossly polluted and while this is partly accounted for by the emissions from factory furnaces, the greater part is caused by the burning of raw coal in domestic fireplaces.

The majority of those in charge of steam boilers in factories are ready to support the efforts of the Department and while, owing to the general backward condition of trade, industrial firms are reluctant to embark on costly schemes of improvement, one or two firms have had the installation of smoke-preventing apparatus or the substitution of electricity for steam power under consideration. At one large factory, which formerly discharged dense volumes of smoke, an important improvement has been effected at considerable cost by the installation of a recent type of smoke-preventing apparatus to 14 furnaces. Other improvements effected during the year were as follows :—

New steam boilers installed, including replacement of old boilers	9
Secondary air smoke-preventing apparatus fitted to boilers	15
Furnaces in which anthracite, coke or other non-bituminous fuel has been substituted for ordinary coal (this includes public offices, banks, churches, etc.)	27
New central heating boilers installed in hotels, schools, offices, etc., to replace boilers of older types	9
New chimneys erected or existing ones heightened to increase their draught	15

The Smoke Abatement Inspectors have made frequent visits, averaging about 300 per month, to the various works to ensure that precautions are taken by the firemen in stoking. Special observations have also been made of chimneys where abnormal volumes of smoke were being emitted and measures have been taken to ascertain the cause and have the matter remedied. The principal causes have been found to be the dirty condition of boiler flues, improper methods of stoking, or the forcing of boilers beyond their capacity.

Railway stations and depots have been kept under close observation, and on several occasions engine-drivers have been reported to the Yard Superintendent for failing to take precautions to prevent the discharge of smoke. Occasionally, also, drivers of steam road wagons have been warned, but greater care in firing is now being taken by the drivers of these vehicles. Offenders can now be dealt with under the Motor Vehicles (Construction and Use) Regulations, 1931.

68 complaints received from citizens were investigated. The majority of these referred to the smoke emitted from central heating boilers during colder weather. The cause for complaint has been removed either by the heightening of chimneys or the substitution of coke for coal. Satisfactory progress has been made in extending the use of coke in central heating boilers for churches, offices, business establishments, etc., and, as a result, what would have been a serious source of pollution has been prevented.

Regarding the domestic aspect of the problem, the increasing adoption of gas and electrical appliances is undoubtedly having beneficial effect, but, as there is still a general desire to retain the advantages of the open fire, reform would not appear to be possible until a sufficient quantity of satisfactory solid fuel substitutes for raw coal can be placed upon the market at reasonable prices.

In recent years a limited amount of smokeless fuel, produced by low temperature carbonisation, has been available and used to some extent in the City, and efforts have been made to provide fireplaces suitable for the burning of gas coke, but the cost of the first-mentioned fuel and the provision of special fireplaces, prohibits their more general adoption.

In addition to the smoke arising from household fires, it is evident from observation that the wilful or inadvertent firing of chimneys also tends towards the serious pollution of the atmosphere. From an estimate of the number of chimneys swept during the year, it is evident that many citizens are neglecting to have this very necessary work carried out. The Firemaster, in his Annual Report for 1931 stated that the assistance of the Fire Brigade was required to extinguish chimneys on fire on no less than 321 occasions. While, in these cases, matters had assumed a serious nature, it is apparent that many more chimneys go on fire and are extinguished without the services of the Fire Brigade being called upon.

The measurement of the solid impurities of the air of the City is continued by the use of three standard gauges, one at Princes Street Gardens, one at Leith Links and one at Bruntsfield House, and the following Table shows the monthly results. They fluctuate according to the weather, and increase directly with the number of rainy days.

Month.	Station.	Millimetres of Rainfall.	Total Insoluble Matter.	Total Soluble Matter.	Total Solids.	Total Solids.
			Metric Tons per Sq. Kilometre.	Metric Tons per Sq. Kilometre.	Metric Tons per Sq. Kilometre.	English Tons per Sq. Mile.
January .	Leith Links . . .	43.74	2.97	2.44	5.41	13.88
	Bruntsfield House .	47.25	3.09	2.17	5.26	13.46
	W. Princes St. Gds.	46.57	5.12	2.52	7.64	19.56
February .	Leith Links . . .	35.71	1.62	2.28	3.90	9.98
	Bruntsfield House .	39.29	2.38	1.90	4.28	10.95
	W. Princes St. Gds.	33.15	2.56	2.12	4.68	11.98
March .	Leith Links . . .	28.15	3.00	1.58	4.58	11.72
	Bruntsfield House .	39.42	3.16	1.66	4.82	12.34
	W. Princes St. Gds.	40.76	17.42	3.34	20.76	53.14
April .	Leith Links . . .	49.55	3.46	1.98	5.44	13.93
	Bruntsfield House .	55.22	4.43	2.09	6.52	16.69
	W. Princes St. Gds.	55.21	6.76	2.64	9.40	24.07
May .	Leith Links . . .	71.16	3.78	3.13	6.91	17.69
	Bruntsfield House .	69.53	3.09	3.06	6.15	15.74
	W. Princes St. Gds.	63.86	3.10	4.22	7.32	18.73
June .	Leith Links . . .	87.75	2.70	2.10	4.80	12.29
	Bruntsfield House .	170.16	3.87	12.60	16.47	42.16
	W. Princes St. Gds.	Bottle tampered with.		...	...	...
July .	Leith Links . . .	106.25	3.24	3.40	6.64	16.99
	Bruntsfield House .	90.01	2.43	2.16	4.59	11.75
	W. Princes St. Gds.	92.11	8.82	2.21	11.03	28.23
August .	Leith Links . . .	89.10	4.08	2.32	6.40	16.38
	Bruntsfield House .	82.08	2.90	2.14	5.04	12.89
	W. Princes St. Gds.	136.74	7.12	2.73	9.85	25.21
September	Leith Links . . .	30.92	3.14	1.92	5.06	12.95
	Bruntsfield House .	49.14	3.04	1.37	4.41	11.29
	W. Princes St. Gds.	38.96	5.65	1.32	6.97	17.84
October .	Leith Links . . .	31.46	2.89	1.20	4.09	10.47
	Bruntsfield House .	33.75	2.98	0.74	3.72	9.52
	W. Princes St. Gds.	33.41	4.57	0.94	5.51	14.11
November	Leith Links . . .	89.24	1.89	4.28	6.17	15.79
	Bruntsfield House .	89.24	2.00	2.50	4.50	11.52
	W. Princes St. Gds.	84.37	3.47	6.41	9.88	25.29
December	Leith Links . . .	15.59	2.20	1.43	3.63	9.29
	Bruntsfield House .	19.44	2.23	1.16	3.39	8.68
	W. Princes St. Gds.	19.29	3.17	1.32	4.49	11.49

OFFENSIVE TRADES.

The following is a list of the Offensive Trades carried on in the City :—3 tanners, 8 hide and skin factors, 1 gut scraper, 1 glue and size maker, 2 skinners, 1 soap boiler, 3 tripe cleaners, 6 manure manufacturers, and 2 tallow melters, making a total of 27. This number is the same as that of last year.

The works were inspected frequently in order to see that the requirements of the Bye-laws were being attended to.

FOOD SUPERVISION.

Visits were paid to the various shops where food is sold, including those of grocers and provision merchants, cooked-meat caterers, butchers, bakers, fishmongers, confectioners, green-grocers and fruiterers, fried fish shops and general shops, to see whether the premises were kept clean and satisfactory hygienic measures adopted.

The improvements effected at those premises during the year were as follows :—

Walls and ceilings white-washed or painted	49
Plaster repaired	10
Floors, doors and windows repaired	28
Floors and shelves cleaned	23
Waterclosets cleaned	27
Waterclosets repaired	14
Waterclosets substituted	4
Additional waterclosets	1
Wash-hand basins introduced	2
Sinks introduced	14
Cloakrooms provided	2
Accumulations of rubbish removed from cellars	13
Cellars limewashed	38
Modern range installed in fried fish shops	1

The need for framing regulations for securing the sanitary condition of food shops and the hygienic handling of food has been stressed in previous reports. While much improvement has been effected in protecting food from contamination, a great deal can yet be done. Moral suasion may continue to effect a higher standard, but reasonable regulations would be more effective.

Many food shops are still without wash-hand basins and towels for the use of those employed in handling the foodstuffs. The cleanliness of back premises does not receive the attention it deserves.

It is noticed, with regret, that some of the newly-established food shops have been constructed with open fronts for the display of goods. There is also a good deal of needless exposure of food on shop floors, counters and shelves. It would appear that these practices can only be stopped by legal obligation yet to be provided.

MILK SUPPLY.

The number of registered dairy-keepers, including hawkers, at 1st January 1931 was 483. During the year applications in respect of 4 premises were received, all of which were fully registered. Registration Certificates in respect of 12 dairy premises and one hawker were cancelled, the sale of milk having been discontinued. The total of 474 dairies, including hawkers, at the end of the year showed a reduction of 9.

The total approximate daily sale of milk of all classes was 25,346 gallons—equivalent to an average amount of about half-a-pint per person—and of this amount 77 per cent. was sold in bottles, being 3 per cent. higher than last year.

Deducting the amount of milk supplied in bulk to Institutions, etc., namely, 8 per cent., it is found that there is still 15 per cent. of the total daily supply passed on to the consumer otherwise than in bottles. This is 3 per cent. less than last year. An effort is being made to have all milk supplied in sterilised bottles.

The amounts of the specially designated milks now sold daily within the City are—290 gallons of “Certified,” 742 gallons of “Grade A (Tuberculin Tested),” and 81 gallons of “Grade A.” In addition, 15,011 gallons of milk are “Pasteurised,” although only a small proportion of this is sold under licence, making a total of 16,124 gallons or about 63 per cent. of the total daily sale of milk.

The Local Authority has granted licences to 171 dealers for the sale of the various grades of milk under the Milk (Special Designations) Order (Scotland), 1930; 63 being for “Certified,” 52 for “Grade A. (Tuberculin Tested),” 9 for “Grade A,” and 47 for “Pasteurised.” This is a decrease of 33 from the number for the previous year, doubtless due to the milk business gradually passing into the hands of large concerns.

Ice-Cream.—The number of premises registered for the sale of ice-cream is 296. Thirty-three samples of ice-cream were taken for chemical examination, and the City Analyst reported that the average amount of milk fat found present was 3.36 per cent. While this amount might reasonably be improved upon, yet it represents an ice-cream of fairly good quality. It must be emphasised again that there is need for the adoption of a legal minimum standard for this popular article of food.

New applications were received from 4 shopkeepers requesting that samples be taken with a view to obtaining the certificate for ice-cream containing a specific amount of milk fat. These certificates were granted, as the samples were found, on analysis, to comply with the requisite standard.

PREVENTION OF FOOD ADULTERATION.

The number of samples procured for chemical analysis during the year was 1,913, which is at the rate of 4·36 food samples per 1,000 of the population. They comprised 693 statutory samples and 1,220 informal samples, the former representing a variety of 76 articles of food and drugs.

In regard to the statutory samples, Dr A. Scott Dodd, B.Sc., Ph.D., F.R.S.E., the City Analyst, reported that 646 or 93 per cent. were genuine, and 47 or 7 per cent. were not in conformity with the legal requirements.

Milk.—Following the precedent of former years, the number of samples of sweet milk is larger than that of any other article of food, the number of statutory samples being 159. Of these, the Analyst reported 136 as being in accordance with the Sale of Milk Regulations, and 23 as being adulterated either by the abstraction of fat or by the addition of water or both.

This has been a record year as regards the quality of the milk analysed, for not only has the percentage of samples returned as deficient been smaller than in any previous term, but the degree of adulteration has also been less.

The average amount of milk fat, calculated from all the statutory samples, including those certified as being adulterated, is 3·54 per cent. and bears favourable comparison with the present presumptive standard, viz., 3 per cent.

The Milk (Special Designations) Order (Scotland), 1930.—The higher standard of milk fat prescribed under this Order demands that systematic sampling of the different grades should be carried out at frequent intervals, and, during the year, samples of the various supplies for the City have been (as far as possible) procured for chemical examination monthly.

The total number of samples taken was 214, consisting of 105 “Certified,” 63 “Grade A (Tuberculin Tested),” 12 “Grade A,” and 34 “Pasteurised” Milk.

A detailed statement is submitted showing the number of samples per month under the various designations, along with the average amount of butter fat found present.

Date.	“Certified.”		“Grade A (T.T.)”		“Grade A.”		“Pasteurised.”	
	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.	No. of Samples.	Butter Fat. Per Cent.
January . . .	9	3·73	7	3·65	1	3·69	3	3·54
February . . .	9	3·82	6	3·68	1	3·49	3	3·47
March . . .	9	4·03	6	3·87	1	3·71	3	3·53
April . . .	8	3·78	4	3·69	1	3·49	3	3·52
May . . .	8	4·06	6	3·83	1	3·76	3	3·46
June . . .	9	3·80	5	3·83	1	3·96	3	3·69
July . . .	9	3·86	5	3·70	1	3·89	3	3·42
August . . .	5	4·08	2	3·78	1	3·78	1	3·54
September . .	10	4·27	5	4·08	1	4·01	3	3·37
October . . .	10	4·36	6	3·83	1	3·88	3	3·92
November . .	10	4·04	6	3·68	1	3·67	3	3·60
December . .	9	4·00	5	3·50	1	3·63	3	3·54
Total . . .	105	...	63	...	12	...	34	...
Average . . .	...	3·99	...	3·76	...	3·75	...	3·55

An examination of the Analyst's figures is interesting as it shows the average percentage of butter fat under each designation to be higher than the requisite standard in every month of the year except February and April, when the “Grade A” milk was 3·49 per cent., a deficiency which after all is negligible.

As one would anticipate, the principal Grade, viz.:—"Certified" shows the highest results and the producers are to be congratulated on the standard attained, for not only was the average amount of fat in every month of the year above 3·70 per cent., but during 7 of these months, viz., March, May, August, September, October, November and December it reached the impressive figure of 4 per cent. or over.

An unusual infringement took place during the year, when a producer was found to be retailing "Certified" milk in some of the out-lying districts of the City without being in possession of a licence from the Local Authority. As he had been licensed for the previous year he was notified, by letter, of the contravention, and warned to make application forthwith. The communication was ignored, and in view of his defiant attitude it was found necessary to take legal proceedings, with the result that he was convicted and fined.

Mince.—It is evident that a certain number of the butchers throughout the City are determined wilfully to disregard the provisions of the Preservatives Regulations in respect to Mince, for, during this year, instead of a diminution there has been an increase in the number of contraventions.

In view of the fact that the number of prosecutions instituted against offenders during the past few years has not acted as a deterrent, it is now a question whether increased fines should be inflicted.

Those who illegally use preservative are taking an unfair advantage of their fellow tradesmen, as unpreserved mince which has been kept for some time deteriorates in appearance compared with that to which preservative has been added, and it is not unusual to receive complaints from butchers alleging the loss of customers who have been attracted to neighbouring shops where this reprehensible practice is prevalent.

The number of samples submitted for analysis was 57 and the Analyst reported that 19 of these contained Sulphur Dioxide varying in quantities from 130 to 550 parts per million by weight.

Nine prosecutions were instituted in the Sheriff Court, a plea of guilty being tendered in every case, and a total of £31, 6s. was imposed in fines and expenses.

Sausages.—The infringements of the provisions of the Preservatives' Regulations in regard to sausages, which were at one time of such frequent occurrence, are now conspicuously absent.

There had been such a decided improvement in the previous year in comparison with former years that it was a matter of speculation as to whether this would be maintained, and it is a pleasure to be able to report that this high standard has been surpassed during the present term, which reflects much credit on the butchers concerned.

The certificates of analysis show unique results as out of the large total of 78 samples of various kinds of sausages, there was only 1 which contravened the terms of the Regulations. This is very striking when it is recalled that, for several years, excessive quantities of preservatives were much too frequent, and it was not unusual to find amounts of Sulphur Dioxide varying from 1,000 to 2,000 parts per million by weight as opposed to the permissible maximum of 450 parts.

Imported Foodstuffs.—Considerable attention has been given to procuring, at Leith Docks, samples of the imported foodstuffs which the Local Authority is required to have examined under the Preservatives' Regulations.

A total number of 41 samples were submitted comprising 14 varieties of food, mainly canned meats from America and Denmark.

The results of the analysis showed that the requirements of the Regulations were complied with.

Tuberculous Infection of Milk.—In connection with the special investigation into the tuberculous infection of milk, which has been in progress since October 1930, this Department procured, during the year, 779 samples of sweet milk for biological examination, consisting of 260 samples of Pasteurised milk, 260 from Producers and 259 from the retail shopkeepers.

THE RAG FLOCK ACT, 1911.

The samples of rag flock taken for analysis under the above Act showed a distinct improvement in the standard of cleanliness as compared with the previous year. Altogether eleven of these were procured at the premises of bedding manufacturers throughout the City, and the Public Analyst reported that in every instance they complied with the prescribed standard.

A scrutiny of the certificates of analysis showed that the amount of Chlorine found present varied from 21 to as low as 2 parts per 100,000 parts of flock, while 7 contained only 12 parts or less. These figures compare most favourably with the permissible maximum fixed by the Regulations, viz., 30 parts of Chlorine per 100,000 parts of rag flock.

It is regrettable that this useful piece of legislation had not been made wider in its scope to embrace other materials used by bedding manufacturers and upholsterers, as some of these materials have been found, on analysis, to give results as regards cleanliness considerably worse than any sample of rag flock taken in the City.

THE POISONS AND PHARMACY ACT, 1908.

The applications received, during the year, for certificates of registration under this Act numbered 29.

As in former years practically all of these were for renewal of licences previously granted by the Local Authority.

Visitation of the various premises proved that, with few exceptions, the terms of the Act were being duly complied with and any offences were of a minor nature.

In every instance it was found that the regulation whereby all poisonous substances must be kept separate from any other goods was efficiently observed. The attention, however, of some licence-holders had to be directed to certain irregularities in entering the different details in the Poisons Book required by the Act, and instructions given that these were to be at once rectified.

THE FERTILISERS AND FEEDING STUFFS ACT, 1926.

It would appear that this Act, which is the third effort of the legislature to provide civil remedies in cases of misrepresentation and to prevent fraud in the sale of Fertilisers and Feeding Stuffs, is not going to be much more popular than its predecessors.

This is the more discouraging as one of its principal objects was to separate as far as possible civil from criminal proceedings with the view of stimulating farmers to exercise their civil rights without exposing their suppliers to a criminal charge.

It seems to be fairly obvious that those whom it was primarily intended to benefit regard it with a certain indifference and refuse to avail themselves of the facilities provided.

Visits were made to premises throughout the City where the manufacture of fertilisers and feeding stuffs was in progress and 8 samples of scheduled feeding stuffs were procured in the manner prescribed by the Act and forwarded to the Agricultural Analyst for examination. All of these were certified to conform to the statutory statements while in several instances the amount of Oil or Albumenoids was considerably higher than the percentage guaranteed.

THE MERCHANDISE MARKS ACT, 1926.

The different "Orders in Council" which have been passed under this Act now represent a fair variety of imported foodstuffs and their enforcement by Local Authorities entails a considerable amount of time and attention.

When the Act was framed there seems to have been no provision made in regard to a small class of trader who hawks certain articles of food from door to door.

Some difficulty was experienced during the year in connection with one or two persons who had no business premises but stored small quantities of imported eggs in some part of their dwelling-house and retailed these from a basket to householders in various districts of the City.

The Act is explicit as regards its execution by Local Authorities and reads as follows :—

“An officer of the local authority may at any time during the hours *when the premises are open for business* enter any premises on which he has reason to believe that there are kept for sale any imported foodstuffs to which an Order in Council under this Act applies and on paying or making tender of payment therefor take samples of any goods which appear to him to be such imported foodstuffs,” etc., etc.

But the difficulty which arises is that traders aforementioned have no premises open for business and the Inspector is thus debarred from taking action.

Visitation of various business premises throughout the City proved that shopkeepers generally were complying with the provisions detailed in the specified Orders, while those in default were warned that any future infringement would probably result in legal proceedings.

PORT SANITARY INSPECTION.

The total number of vessels, including steamers, motor vessels, sailing ships and fishing craft, which arrived at the Port Sanitary District during the year 1931 was 9,825, making a total tonnage of 2,734,000, *i.e.*, a decrease of 557 vessels and 183,554 tons compared with 1930.

The work of sanitary inspection of vessels was carried out on similar lines to those in previous years. The cleanliness varied very much according to the class of work on which vessels were employed, and at times of inspection allowance had to be made for the dirt caused by the loading or discharging of dirty cargoes.

The treatment of the living quarters for the eradication of vermin was enforced on 119 vessels, and the methods employed varied according to the extent of the infestation and the species of vermin. This work was, on the whole, willingly undertaken, as the benefit to be derived from vermin-free quarters was readily appreciated. It is pleasing to note that the general standard of hygiene in living quarters on board ships is steadily rising. In addition to ascertaining the general cleanliness of vessels, inspection was made of the drinking-water tanks, holds, bilges, galleys, food-stores, sanitary conveniences and wash-places, and any defects or negligence were remedied by bringing these to the notice of the Master or Owner. The necessity for a pure and wholesome water supply on board ships is fully realised in most cases by those responsible, the cleaning and refilling of water tanks being undertaken in the general routine of ship work.

Infestation by Rats.—The danger of plague being carried by ship-borne rats calls for constant vigilance and inspection. The benefits of the systematic six-monthly deratization of rat-infested vessels under the International Sanitary Convention of Paris, 1926, is evident from the smaller number of rats found after fumigation.

It is of interest, however, to recount an experience with a ship which arrived here in September last from the Mediterranean with a Deratization Exemption Certificate, dated June 1931. The vessel had discharged a cargo of grain at an English port and during her stay there 92 rats had been caught. On arrival at Leith in ballast the vessel was thoroughly fumigated, and 77 more rats were found. The vessel was only 2,522 nett tons.

Fumigation of a number of vessels was carried out at the owners' request to rid the ship of insect vermin, even although it was known that few, if any, rats were on board. Experience has shown that infestation by certain insects persists even after vigorous cleaning, and fumigation is the only remedy. The practice of fumigating by the use of Cyanogen Chloride, which has proved so satisfactory in previous years, was continued.

Measures of rat repression have been systematically taken by members of the staff of the Leith Dock Commissioners throughout the Dock estate and buildings. The Commissioners have also maintained a high standard in the cleanliness of the roads, sheds, wharves, etc.

I wish to express my appreciation of the valuable co-operation in the work of Port sanitation received from the Leith Dock Commission and their staff, His Majesty's Collector of Customs, the Chief Preventive Officer and his staff, the Granton Harbour Officials, and the various shipping companies and agents who have aided the Port Sanitary Department in the discharge of its duties.

Port Sanitary Inspection—Yearly Statement.

Year 1931.

Ships boarded and inspected	1,214
No. of re-visits made	678
No. of nuisances discovered	6,412
No. of nuisances abated	6,329
No. of communications written	45
No. of notices served	35
No. of verbal warnings	212
No. of ships fumigated or otherwise treated for vermin other than rats	119
No. of International Deratization Certificates granted	58
No. of International Deratization Exemption Certificates granted	117
No. of local fumigation certificates granted	12
No. of rats exterminated	994
No. of ships provided with rat guards	662
Notices of regulations served upon Masters or Officers in charge	624
V.D. Pamphlets distributed on behalf of the B.S.H. Council	620
No. of rats submitted for bacteriological examination	62
Negative	62

Nuisances Discovered.

Dirty floors, tables, decks, etc.	793
Dirty bunks and bedding	1,737
Dirty partitions and ceilings	511
Dirty lockers	1,221
Foul closets and latrines	291
Foul wash-basins	139
Foul sinks	42
Foul baths	8
Choked scuppers	85
Choked and defective latrines	29
Choked and defective wash-basins	20
Choked and defective sinks and baths	4
Obnoxious odours	3
Accumulations of garbage, refuse, etc.	231
Dirty fresh-water tanks	193
Dirty and offensive bilges	545
Dirty galleys, food stores, pantries, etc.	102
Dirty wash places	84
Dampness in quarters	2
Insufficient light and ventilation . . . . .	...
Ships without rat guards	69
Presence of rats and mice	75
Presence of cockroaches and beetles	47
Presence of bugs and fleas	76
Presence of flies . . . . .	...
Miscellaneous	105
Total	<u>6,412</u>

Rat Destruction Measures in Dock Area:—

Baits laid 12,000

STAFF.

I desire to express my cordial appreciation of the hearty co-operation and the enthusiastic services rendered by Mr Thomas Bishop, Depute Chief Inspector, and all the members of the staff.

I am,

My Lord Provost and Gentlemen,

Your obedient Servant,

ALLAN W. RITCHIE, F.R.San.I., F.R.S.E.,
Chief Sanitary Inspector.

NUISANCES AND SANITARY IMPROVEMENTS IN 1931.

NATURE OF NUISANCE.	Calton	Canongate	Newington	Morningside	Merchiston	Gorgie	Haymarket	St. Bernard's	Broughton	St. Stephen's	St. Andrew's	St. Giles	Dalry	George Square	St. Leonard's	Portobello	South Leith	North Leith	West Leith	Central Leith	Liberton	Colinton	Corstorphine and Craigmond	Totals
<i>Water-closets :—</i>																								
Water-closets introduced	11	4	...	2	...	4	1	...	2	...	2	...	13	1	4	15	...	4	2	2	20	71
New apparatus substituted	4	58	2	4	6	4	1	3	3	...	9	16	9	11	21	78	6	26	1	5	...	...	67
Improved or repaired	4	7	...	2	6	...	...	1	3	1	3	...	4	11	21	6	3	1	5	6	3	...	277
Partitions of W.C. apartments repaired	...	80	5	...	...	...	1	2	16	3	4	20	4	14	19	56	2	2	...	...	...	...	32
Water-closets and sinks in a filthy condition and cleansed	...	13	1	...	...	...	...	4	5	7	8	16	1	11	31	25	4	10	4	2	...	...	230
Choked water-closets cleared	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	146
Water-closet apartments insufficiently lighted and ven-tilated—improvements effected	8	...	...	1	...	...	...	...	...	...	2	...	1	...	1	...	...	...	...	1	...	...	14
New water-closet apartments provided . . . . .	...	...	...	2	...	...	...	...	1	...	...	...	1	...	...	...	1	...	...	...	4	...	15
<i>Sinks, Tubs and Wash-hand Basins :—</i>																								
Sinks introduced . . . . .	...	5	...	1	...	...	...	...	1	...	...	1	...	...	...	2	...	1	1	...	8	...	39
Insanitary sinks abolished . . . . .	...	...	...	...	...	...	1	2	1	2	2	...	...	1	...	4	...	3	...	...	...	...	31
Earthenware sinks and tubs substituted	35	5	5	4	3	4	4	...	1	2	5	5	34	5	9	6	3	3	...	5	18	1	155	
Repaired (Woodwork, etc.)	27	25	3	6	6	24	4	1	3	3	6	9	50	7	7	26	7	14	10	12	1	2	253	
Choked sinks, wash-tubs, etc., cleared	2	23	...	1	...	14	2	3	...	2	...	4	...	...	7	32	1	5	...	...	4	...	100
Wash-hand basins renewed or introduced . . . . .	...	...	...	...	4	...	...	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	8
<i>Drains :—</i>																								
Choked drains cleared	30	40	12	6	13	94	9	12	10	26	14	51	38	42	92	37	19	42	10	28	2	6	636	
Choked surface traps cleared	4	11	3	2	3	...	2	1	...	5	8	8	13	1	6	16	6	12	5	6	...	...	114
Drains repaired or renewed	10	8	1	...	1	2	2	3	2	2	2	...	1	1	...	6	...	...	3	1	...	...	45
Soil pipes repaired or renewed	3	4	1	...	1	...	2	1	1	2	3	6	1	7	2	7	...	...	...	1	...	...	42
Sinks, etc., waste pipes repaired or renewed	4	8	...	3	1	4	...	2	1	7	3	6	17	5	17	6	4	9	...	3	...	...	100
Rain-water conductors repaired or renewed	2	3	...	1	...	4	...	1	2	...	1	...	5	2	1	5	1	1	1	2	...	...	32
<i>Water Supply :—</i>																								
Cisterns found dirty . . . . .	...	5	...	...	...	1	1	1	...	...	2	1	...	...	5	2	...	...	...	1	...	...	19
Cisterns found without covers	2	2	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	7
Cisterns repaired or renewed	2	4	...	...	...	1	...	...	...	1	...	3	...	...	8	...	11	16	1	6	...	...	53
CARRY FORWARD	147	305	33	37	48	153	29	41	53	74	74	149	188	108	230	331	72	148	44	86	72	10	54	2,486

NUISANCES AND SANITARY IMPROVEMENTS IN 1931—continued.

NATURE OF NUISANCE.	Calton	Canongate	Newington	Morningside	Merchiston	Gorgie	Haymarket	St. Bernard's	Broughton	St. Stephen's	St. Andrew's	St. Giles	Dalry	George Square	St. Leonard's	Portobello	South Leith	North Leith	West Leith	Central Leith	Liberton	Colinton	Corstorphine and Craigmond	TOTALS
BROUGHT FORWARD	147	305	33	37	48	153	29	41	53	74	74	149	188	108	230	331	72	148	44	86	72	10	54	2,486
<i>Water Supply (continued) :—</i>																								
Cisterns removed to a more sanitary situation . . . . .	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Branches taken off the main . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
Water pipes repaired	6	18	13	1	2	1	...	...	5	2	2	2	...	...	3	12	3	4	...	1	...	1	...	76
Houses temporarily without water supply due to burst pipes, etc.	9	28	...	...	...	...	2	...	...	1	2	6	18	...	17	8	...	...	...	...	...	...	...	91
<i>Repairs to Houses :—</i>																								
Partition walls repaired	2	11	...	...	...	...	...	1	1	2	4	2	...	...	...	6	...	5	...	1	2	...	...	37
Floors, hearths, doors, etc., repaired	10	26	3	2	3	5	2	1	5	6	5	6	10	6	11	10	6	26	10	13	9	1	1	177
Windows and skylights repaired or renewed	18	12	7	4	4	3	...	1	7	8	3	11	10	8	6	28	5	19	5	5	...	...	...	164
Coal bunkers repaired or provided . . . . .	...	12	...	2	...	3	...	...	...	1	...	5	...	...	6	11	2	5	...	...	...	...	...	47
Grates or ranges repaired or substituted . . . . .	...	6	6	1	...	1	...	1	3	...	2	5	1	5	1	11	1	11	...	5	...	...	...	65
Wall and ceiling plaster repaired	17	24	7	5	2	3	1	...	7	2	3	23	...	19	20	35	5	4	4	10	1	...	...	192
Defective roofs repaired . . . . .	...	7	...	2	1	1	2	1	7	...	1	3	...	...	2	11	3	6	3	4	...	...	...	54
Boiler of kitchen range renewed	3	...	...	1	...	1	...	...	...	...	...	1	1	...	...	...	...	1	...	1	...	...	...	9
<i>Nuisances in Houses :—</i>																								
Floors and bedding of houses in a dirty condition and cleansed by tenants	1	42	9	1	1	...	1	7	13	1	2	4	4	25	13	48	2	11	4	1	5	1	1	197
Nuisances due to bad smells in dwelling houses caused by escapes of gas, dead vermin, etc.	10	14	...	3	2	4	6	3	5	11	7	6	10	3	3	7	9	4	5	3	...	1	2	118
Smoke in houses due to foul or obstructed vents	14	11	3	1	...	1	3	2	7	6	2	10	4	9	9	10	3	12	3	3	2	...	...	115
Damp houses remedied or abated	10	6	...	2	2	2	...	...	6	1	...	5	3	3	2	1	2	2	9	1	5	...	...	65
Damp and uninhabitable houses vacated	1	10	...	1	...	...	3	...	...	1	...	2	...	1	...	3	...	...	4	...	10	10	2	48
Houses overcrowded	78	116	24	2	4	58	16	27	29	35	58	165	136	120	184	35	82	186	84	93	15	2	2	1,551
Houses and shops flooded from defects on flats above	4	4	1	3	...	...	2	2	9	1	...	8	...	2	14	4	4	1	...	...	...	...	...	59
Animals kept in, or in close proximity to dwellings . . . . .	...	8	...	7	2	1	3	1	3	...	6	...	6	...	...	2	4	1	...	...	...	...	...	44
CARRY FORWARD	336	659	106	75	71	237	70	88	160	154	172	413	391	309	521	575	203	447	175	227	121	26	77	5,613

. NUISANCES AND SANITARY IMPROVEMENTS IN 1931—continued.

NATURE OF NUISANCE.	Calton	Canongate	Newington	Morningside	Merchiston	Gorgie	Haymarket	St. Bernard's	Broughton	St. Stephen's	St. Andrew's	St. Giles	Dalry	George Square	St. Leonard's	Portobello	South Leith	North Leith	West Leith	Central Leith	Liberton	Colinton	Corstorphine and Cramond	Totals
Brought Forward	336	659	106	75	71	237	70	88	160	154	172	413	391	309	521	575	203	447	175	227	121	26	77	5,613
<i>Nuisances in Houses (continued) :—</i>																								
Houses distempered, papered or painted by—																								
Tenants	5	38	...	4	3	3	...	...	6	...	5	8	2	...	16	22	14	21	...	...	3	...	...	150
Owners	12	26	26	13	9	9	5	8	8	6	8	8	3	3	12	7	4	18	...	...	14	...	...	199
<i>Stairs, Passages, etc. :—</i>																								
Staircases painted	50	98	32	51	64	100	12	54	83	36	34	44	82	55	105	37	46	140	39	130	...	...	...	1,292
Stairs and passages in a dirty condition and cleansed by tenants	137	162	178	39	28	93	29	24	267	37	77	105	51	97	143	167	70	65	41	37	128	...	1	1,976
Dogs and cats committing nuisance in common stairs and back-greens	27	16	9	3	7	11	...	6	18	5	1	10	8	13	6	16	6	3	3	...	2	1	...	171
<i>Shops :—</i>																								
Shops cleaned by tenants or owners . . . . .	...	7	...	...	...	3	...	5	12	...	3	...	2	...	4	5	2	4	...	...	1	...	1	49
<i>General :—</i>																								
Premises infested by rats	9	15	16	10	8	8	16	14	15	9	15	18	6	20	15	12	11	19	10	...	5	11	23	294
Premises infested by other vermin	13	32	36	1	2	9	2	2	15	3	10	15	6	14	15	2	7	26	6	...	13	...	...	240
Accumulations of rubbish, garbage, and filth removed from areas, roofs, cellars and vacant houses	40	30	9	25	16	16	17	30	83	32	35	77	77	25	85	22	580	880	171	462	1	2	2	2,717
Accumulation of manure near dwellings	1	4	1	9	5	1	...	3	33	...	...	1	3	3	3	8	...	...	...	...	1	2	5	85
Disused cellars cleaned and closed . . . . .	...	1	1	...	...	...	1	...	...	...	3	4	...	...	21	...	...	12	...	2	...	...	...	46
Tenants casting garbage over windows	8	64	7	15	9	7	15	5	24	16	14	13	11	15	10	57	3	1	1	...	2	2	1	301
Seasonal workers huts found dirty and cleansed . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	4	1	6	16
Surfacing of courts repaired or renewed	8	...	...	...	3	1	2	2	3	...	1	...	...	1	...	...	1	5	...	...	2	...	...	31
Miscellaneous nuisances	37	45	3	6	12	29	12	11	14	20	19	7	17	7	4	24	24	28	15	...	...	14	17	384
Noise nuisances . . . . .	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
TOTALS	683	1197	424	251	239	527	181	252	741	318	397	724	659	562	960	959	971	1669	463	905	293	58	133	13,566

SUMMARY.

Number of complaints by citizens	3,529
„ „ „ other Departments	102
Number of nuisances discovered and reported by District Inspectors . .	9,935
<hr/>	
Total number of nuisances dealt with by the Department	13,566
Number of intimations of existence of nuisance served	1,641
„ notices to remove nuisances served at the instance of the local Authority	56
„ notices delivered cautioning persons against casting garbage over windows	1,564
„ notices served on occupiers failing to take due rotation of stair- sweeping and washing	504
„ notices served for the cleaning of dirty areas, cellars, etc. .	286
„ notices and letters served for the whitewashing and cleansing of houses	110
„ notices and letters served for the removal of accumulation of manure	43
„ notices served in connection with defective drains and soil pipes .	147
„ intimations under the Housing (Scotland) Acts, 1925-1930 .	314
„ letters sent to tenants and owners of shops with regard to cleansing and sanitary provisions	42

VETERINARY DEPARTMENT,
PUBLIC HEALTH CHAMBERS,
JOHNSTON TERRACE,
EDINBURGH, 15th April 1932.

To
*The Lord Provost, Magistrates, and
Council of the City of Edinburgh.*

MY LORD, LADIES AND GENTLEMEN,

I beg to submit, for transmission to the Department of Health for Scotland, my Report for the year ending 31st December 1931, which has been called for by the Department in virtue of their powers under Section 4 (5) of the Milk and Dairies (Scotland) Act, 1914.

I am,

Your obedient Servant,

A. GOFTON,
Chief Veterinary Inspector.

To
*The Secretary,
Department of Health for Scotland,
Edinburgh.*

SIR,

I beg to submit herewith my Report for the year 1931, as required by Section 4 (5) of the Milk and Dairies (Scotland) Act, 1914. An account of the year's work in connection with the inspection of meat and other foodstuffs, including port food inspection, is added.

MILK AND DAIRIES (SCOTLAND) ACT, 1914.

No administrative difficulties have been encountered during the year in the operation of the Act, and no points have arisen which merit special mention.

Inspection of Cows and Dairy Byres.—In terms of the Act, the Veterinary Inspector is required to inspect the cattle in all registered dairies in the City from time to time and once at least in each year. In accordance with practice, the cattle in all the registered dairies in the City have been examined at intervals of one month. During the year 915 visits were made to registered dairies and the cattle therein inspected. In determining the duties of the Veterinary Inspector, under the Act, the Local Authority made provision for the periodical inspection of all dairy cattle in premises which were exempt from registration under the Act. In accordance with this requirement, 72 visits were made to non-registered dairies.

The newly-calved cows offered for sale in the market at Gorgie on the Tuesday and Wednesday of each week were subjected to inspection and examination in the market identical to that which takes place in registered dairy premises. During the year 2,236 cows were so examined in the market, representing an average of 43 cows exposed for sale each week. Six cows suffering from tuberculosis, within the meaning of the Tuberculosis Order of 1925, were discovered in the markets, viz.:—Tuberculosis of the Udder 3, Tuberculous Emaciation 1, Chronic Cough and showing definite clinical symptoms of tuberculosis 2. In terms of Article 12 of the Tuberculosis Order, the owners were ordered to remove these cows from the market. The animals were all slaughtered by the owners at their own risk.

Health of Cows, etc.—Apart from tuberculosis, 170 diseased cows were detected in the course of inspections of cattle in registered or exempt premises. The diseases encountered were as follows :—

Mastitis	68
Suppurating conditions of udders and teats	20
Vesicular eruption on teats	46
Retained placenta	5
Psoroptic Mange and Ringworm	17
Actinomycosis	2
Milk Fever	2
Injuries and General Disorders	10
	<hr/>
	170

The cows in question were removed permanently or temporarily from the milking herds as cases required. The milk was withdrawn from sale in all cases in which risk was entailed of contamination or infection from the diseased condition. In appropriate cases it was fed to pigs or calves after boiling, otherwise it was destroyed.

Tuberculosis in Dairy Cows.—During the year 29 cows, on registered dairy premises in the City, which were found to be tuberculous, within the meaning of the Tuberculosis Order of 1925, were dealt with in terms of that Order. These animals were classified as follows :—Tuberculosis of the Udder 18, tuberculous emaciation 1, chronic cough and showing definite clinical symptoms of tuberculosis 10. The total number of milk cows removed, on account of tuberculosis, from dairy herds and from the Market for dairy cows at Gorgie, during the year, was thus 35.

The tuberculin test was not applied in any case under the powers contained in Section 22 of the Act. So far as the test was employed for the diagnosis of tuberculosis it was used under the powers contained in the Tuberculosis Order.

The incidence of tuberculosis in dairy cows in the City and district revealed by post-mortem statistics at the Abattoirs during 1931, shows a higher occurrence than has been the average over a period of years. Of a total of 3,777 cows slaughtered, 1,780 or 49·18 per cent. were affected with tuberculosis in some degree. This compares with an average of 42·6 per cent. over the previous five years. In 9·89 per cent. of cases, the disease was advanced and the whole of the carcass and all the viscera were condemned. In 16·74 per cent. tuberculosis affected the viscera and localised areas on the carcass, and in 73·37 per cent. it was confined to one or more of the visceral organs. The importance of the economic side of tuberculosis is well illustrated by the figures quoted in relation to meat inspection where it is shown that tuberculosis is responsible for 86·7 per cent. (by weight) of seizures of cow beef from all causes, and 83·9 per cent. (by weight) of seizures of all classes of beef.

Number of Cowsheds.—At December 1931 there were on the register 79 premises in the occupation of milk producers. The number of cowsheds on these premises was 139 with a stall accommodation for 2,960 cows.

Five certificates of registration were transferred to new tenants during the year. One new certificate was granted, and five were cancelled. There was thus a net reduction in the City of four dairy premises in the occupation of milk producers. Two producers extended their premises and certificates of registration approving of the additional accommodation were granted.

At December 1931 the number of exempted premises was 28 and the number of cows therein 67. These premises are all licensed under the Cattle Sheds in Burghs (Scotland) Act, 1866. In only a few cases is milk sold from these premises. Exemption from registration under the Milk and Dairies (Scotland) Act, continued to be granted in those cases in which the amount of milk sold per day did not exceed two gallons.

Milk and Dairies Order, 1925.—Articles 5 to 16 of the Milk and Dairies Order, 1925, have been complied with so far as these articles apply to the premises of milk producers in the City.

Tuberculous Infection of Milk.—Reference was made last year to an investigation undertaken at the instance of the Department of Health for Scotland, with the object of ascertaining the extent of the tuberculous infection of milk as sold to the public in Scotland. It was originally proposed that 2,000 samples should be subjected to the biological test for tuberculosis in each of the four large centres of population in Scotland, but this was subsequently reduced to 1,000 in each centre. At the end of the year 82 only of these samples remained to be completed in the City. The work was carried out jointly in this Department, and in the Bacteriology Department of the University under Professor Mackie.

It will be observed from the Table on page 156 that the biological test was completed during the year in respect of 810 samples, and that this number comprised approximately equal numbers of samples of farm milk, *i.e.*, milk as delivered in town from the producer; retailed milk, *i.e.*, milk as sold over the counter in shops; and pasteurised milk. Owing to the premature death of experimental animals, or to other similar causes, the results were inconclusive in respect of 21 samples. Deducting these from the total, the results show that 82 samples, out of a total of 789, were positive to the test and contained living tubercle bacilli at the time of sampling.

Taking the different groups and deducting the inconclusive results, it is observed that of the 270 farm samples the test was positive in 32 cases or 11·59 per cent. This is higher than the average of 7·8 per cent. over the last fourteen years, during which the percentage has varied between 14 per cent. and 2 per cent. Two of the positive farm samples had their origin in the City and, in both cases, investigation led to the detection of a cow with tuberculosis of the udder. The thirty positive samples received from outside districts were referred to the local authorities concerned for investigation. Reports received from these local authorities showed that, in respect of 20 samples, in which 21 producers were involved, 32 cows were detected and were destroyed under the Tuberculosis Order, as affected with tuberculosis of the udder, or giving tuberculous milk. In respect of the balance of 10 positive samples, one remained under investigation at the close of the year, and in 9 cases further biological tests showed that the source of infection had been eliminated between the time when the original sample was taken and the clinical examination which was made after completion of the first biological test.

The retailed milks gave 42 positive samples, a percentage of 15·84, against 11·59 of farm samples. In explanation of the higher percentage of retailed milks, it was ascertained in the course of investigation that two factors operated, *viz.*:—the distribution of milk from an infected source to a number of retailers, each of whose milk, on testing, would consequently give a positive result, and secondly, the bulking of milk on retailers' premises from a number of producers, with consequent greater chance of including an infected supply.

From an administrative point of view, retailers' samples are of little value, and the procedure of tracing the source of infection in positive samples is laborious and expensive owing to the fact that a large proportion are representative of milk from mixed sources. Difficulties also arise on account of inaccurate information as to the origin of milk, given, generally quite honestly, by the retailers. Notwithstanding the difficulties, the source of infection was traced in respect of 17 of the shop samples and 21 cows were removed from the herds concerned, and destroyed on account of tuberculosis of the udder, or giving tuberculous milk. In the remaining 25 positive cases, in which, so far as could be ascertained, at least 31 producers were concerned, the source of infection could not be traced, although, in the majority of instances, bulk or group samples were tested biologically with negative results.

It will be observed that the source of infection was definitely traced in 71 per cent. of the positive farm samples, and that it was positively shown in respect of the remaining 29 per cent. that the milk had ceased to be infective. In respect of shop milk, the source was traced in 40·5 per cent. of the positive samples, but, notwithstanding extended enquiry, it was found impossible to trace out the source of infection in the remainder.

Pasteurised milk, when treated by the "Flash" process, gave 5 positive samples. It is acknowledged that the value of flash pasteurisation is mainly commercial and that, as a means of destroying tubercle bacilli in milk, it is generally inefficient. It is of interest, however, to note that all of the 5 positive samples were derived from one depot which was supplied by 19 producers, and that infection was traced to one of these producers on whose premises a cow affected with tuberculosis of the udder was detected. Infection of this supply ceased with the removal of the cow. It is worthy of note that, as a consequence of the above results, the firm concerned abandoned the method of treatment by the "Flash" process and installed a "Holder" apparatus.

The "Holder" method of pasteurisation is generally accepted as an efficient means of destroying living tubercle bacilli in milk. It may, therefore, appear somewhat disconcerting to find that the biological test revealed 3 samples in which living tubercle bacilli were present. The percentage of positive samples (1·2 per cent.) is, however, very low and investigation showed that in each case, the apparent failure was due to temporary defects in the plants concerned and was not attributable to defects inherent in the process.

Milk and Dairies (Scotland) Act, 1914 (Sections 13, 14 and 21).—The City dairymen continue to observe the terms of Sections 13 and 14 of the Act with regard to the withdrawal from sale of the milk from a diseased cow and notification of the existence of disease.

The City being entirely a receiving and consuming district no question of taking samples of milk under Section 21 of the Act has arisen.

Milk (Special Designations) Order (Scotland), 1930.—The producer's licence granted in 1928 for the sale of Grade "A" milk has been continued. The conditions of the licence have been complied with and the required hygienic standard of the milk has been maintained.

The conditions of the licence for the sale of "Certified" milk, held by the Royal Victoria Hospital Tuberculosis Trust, Gracemount Farm, Liberton, Edinburgh, have also been complied with during the year. The average number of cows in the herd is 40, and production has been maintained at approximately 25,500 gallons, which is wholly retailed in the City by the producer.

The herd was twice tested with tuberculin, in the spring and in the autumn, by the double intradermal method. The number of animals tested at the two tests was 97. There have been no reactors and no case of tuberculosis in this herd for a period of six years. The young stock, comprising 53 animals, were tested in the autumn on the grazing farm belonging to the Trust, at Romanno Bridge, Peeblesshire. There have been no reactors at Romanno since the Trust entered into occupation of this farm.

All milks sold in the City under licences granted in terms of the Milk (Special Designations) Order, have been periodically sampled and subjected to bacteriological examination. During the year, 119 samples of graded milk were thus examined. Of these, 28 were samples of "pasteurised" milk, and were representative of milk from both licensed and non-licensed pasteurisers. Further reference is made by Mr Jowett to these examinations in his report on the bacteriological work performed.

Milk Supply—City Hospitals.—The dairy herd at Colinton Mains Farm belonging to the Corporation, has continued the supply of the milk to the hospitals. The herd was subjected to the double-intradermal tuberculin test twice during the year and tubercle-free condition has been maintained. The milk was repeatedly sampled during the year for bacteriological examination and conformed to the bacterial standard for certified milk.

The average number of cows in milk during the year was 90, and the total output of milk for the year amounted to 74,920 gallons. Official milk recording was continued and the 60 cows and heifers whose record was completed during the year showed an average milk production of 892 gallons at 3.77 per cent. butter fat in an average period of 45 weeks. Of these 60 animals, 16 gave a production exceeding 1,000 gallons, the maximum production being obtained from a heifer which gave 1,505 gallons at 3.86 per cent. butter fat in 43 weeks.

BACTERIOLOGICAL LABORATORY.

Summary, by Mr W. Jowett, F.R.C.V.S., D.V.H., of work performed in the Laboratory during 1931.

BACTERIOLOGICAL EXAMINATION OF MILK.

(1) **Enumeration of Bacteria.**—During the past year samples of milk have again been submitted to bacteriological examination for the purpose of ascertaining their respective hygienic standards. Such tests serve as a useful index as to the amount of care and cleanliness which have been exercised in the production and handling of this food material.

The following is a summary of the various classes or grades of milk samples which have been submitted to bacteriological analysis during 1931 :—

Certified Milk	53
Grade " A " (Tuberculin Tested) Milk	27
Grade " A " Milk	11
Pasteurised Milk	28
Ordinary Market Milk	6
Milk for City Hospitals	6
	<hr/> 131 <hr/>

Of the above, four samples of Certified and three of the Grade " A " samples fell below the standard specified in the Milk (Special Designations) Order. In each case the attention of the producer and of the Local Authority concerned was directed to the fault. As subsequent test samples proved satisfactory and up to standard, the indications were that faults were attributable to temporary causes which had been remedied or removed.

Four of the pasteurised milk samples failed to conform to the required standard in so far as concerns the general enumeration of living bacteria present. The Milk (Special Designations) Orders do not specify any requirement in respect of coliform contamination in relation to pasteurised milk, but, as a routine measure, the coliform test is applied to all milk samples. Coliform organisms were demonstrated to be present in 11 samples of pasteurised milk, representing 39.2 per cent. of the samples examined.

(2) (a) **Milk from Individual Cows** (in City byres) examined for the presence of Tubercle Bacilli and other Specific Organisms.

Number Examined.	Object.	Nature of Examination.	Result.
152	Detection of Tubercle Bacilli.	Microscopical	Positive . . . 21 Negative . . . 131

Of the 131 milk samples above shown as microscopically negative to tuberculosis, streptococci were detected on microscopical examination alone in 18. Of the remainder 13 were subsequently submitted to the biological test and 49 to cultural tests, with the following results :—

Number Examined.	Object.	Nature of Examination.	Result.
13	To determine the presence of Tubercle Bacilli	Biological	Positive . . . 4 Negative . . . 9
49	To determine the presence of other Specific Organisms	Cultural	Streptococci . . . 30 Staphylococci . . . 4 Mixed infection . . . 6 C. pyogenes . . . 6 Coli Type bacillus . . . 3

(b) **Mixed or Bulk Milk Samples**, collected at Railway Stations, Milk Depots, or Retailers' Premises in Edinburgh.

The following Table shows the numbers of bulk milk samples which were subjected to biological test for tuberculosis and in which the test was completed during the year :—

(Brought forward incomplete at the end of 1930) :—			
Farm Milk	Positive	4	
	Negative	41	
	Inconclusive	1	
		—	46
Retailed Milk	Positive	7	
	Negative	35	
	Inconclusive	1	
		—	43
Pasteurised Milk	Positive	2	
	Negative	41	
	Inconclusive	1	
		—	44
Number tested and test completed at 31st December 1931 :—			
Farm Milk	Positive	28	
	Negative	197	
	Inconclusive	5	
		—	230
Retailed Milk	Positive	35	
	Negative	182	
	Inconclusive	5	
		—	222
Pasteurised Milk	Positive	6	
	Negative	211	
	Inconclusive	8	
		—	225
Total completed			<u>810</u>
Total number of positive samples :—			
Farm Milk		32	
Retailed Milk		42	
Pasteurised Milk	“Flash”	5	
	“Holder”	3	
		—	<u>82</u>
Percentage of total number of samples which proved positive			10·1
Remaining under test and incomplete at 31st December 1931 :—			
Farm Milk		33	
Retailed Milk		34	
Pasteurised Milk		34	
		—	<u>101</u>
659 of the above samples were subjected to test in the Bacteriological Department of the University.			

In tracing the origin of infection of the above positive samples, biological tests were made of milk samples from the premises of producers in the City as follows:—

Bulk Samples	Positive	5	
	Negative	15	
	Inconclusive	2	
		—	22
Group Samples	Positive	5	
	Negative	29	
		—	34
Milk from individual cows	Positive	5	
	Negative	23	
		—	28
Total		—	84

In course of the biological testing of milk samples attention has also been directed to ascertaining the number in which the *Brucella abortus*, the causal organism of bovine contagious abortion, was present. So far, 295 milk samples have been specifically examined with this object and, of this number, 49, or 16·6 per cent. furnished evidence of *B. abortus* infection.

It is possible that this figure may underestimate the extent of *B. abortus* infection since, after inoculation with the milk samples in question, only those experimental animals which showed macroscopic evidence of infection at post-mortem examination (*i.e.*, those in which the lesions resulting from milk inoculation had reached a fairly advanced stage) were further tested for the presence of the *B. abortus* in the lesions. Had the sero-agglutination test been applied to all the experimentally inoculated animals and the diagnosis based on this test rather than on actual recovery of the specific organism from the inoculated animals, possibly the number showing evidence of *B. abortus* infection might have been greater. Be that as it may, it is nevertheless evident that a not inconsiderable percentage of ordinary market milk contains the organism in question.

(3) Bacteriological Examination of Other Materials:—

Material.	Number Examined.	Nature of Examination.	Result.
Blood preparations	207	Microscopical and cultural (one or both)	<i>Anthrax</i> — Positive 2 Negative 205
Do.	20	Sero-Agglutination	<i>B. Abortus</i> infection— Positive 3 Doubtful 1 Pyogenic infections 16
Skin scrapings	4	Microscopical	<i>Mange</i> — (Scheduled Forms) Positive 1 Negative 3
Expectorate (cow's)	6	Microscopical	<i>Tuberculosis</i> — Positive 1 Negative 5
Diseased organs and materials	98	Microscopical, and, in certain instances, Cultural and Biological in addition	<i>Tuberculosis</i> 12 <i>B. Abortus</i> infection 49 <i>C. pyogenes</i> infection 10 Other pyogenic infections 5 <i>B. Necrosis</i> infection 4 <i>Actinobacillosis</i> 2 Neoplasms 5 <i>Johne's</i> Disease 1 <i>B. purifaciens</i> infection 8 Undetermined 2
Other materials	6	Cultural and Microscopical	Defective or suspicious (adulterated) food materials 6
Milk	4	Cultural	"Stringy" and "tainted" 4
Hide bindings from orange boxes	6	Cultural	<i>Anthrax</i> — Positive 0 Negative 6

In addition to the above detailed investigations and examinations, vaccines (autogenous and stock) were prepared in the laboratory during the past year. These were utilised in the treatment of cases of bovine mastitis in the farm stock and also for certain other diseases, and are stated to have yielded satisfactory results in practice.

With reference to the items included under the heading of "Diseased Organs and Materials examined," one specimen examined—the lungs and related glands of a sheep—seems worthy of special mention on account of its rarity, it being verified as a case of tuberculosis in the sheep. As evidence of the rarity of this condition, it may be stated that an average of approximately 140,000 to 150,000 sheep pass through Gorgie Abattoir annually and this represents only the third case of the kind which has been encountered during recent years. Previous cases were recorded in the annual reports for 1926 and 1927—one in each year. In this, as in the previously recorded instances, the Tubercle bacillus proved to be of the bovine type.

W. JOWETT, F.R.C.V.S., D.V.H.

INSPECTION OF MEAT AND OTHER FOODS.

(a) **Fat Stock Markets.**—The usual observation has been maintained in the fat stock markets throughout the year, a Veterinary Officer being detailed for duty in the markets on each market day. Fourteen cows, one bull, one calf and six sheep were ordered out of the markets by the Veterinary Officer, on account of disease or injury. In all cases the animals were removed to the Slaughterhouse and slaughtered at the owners' risk.

The following Table shows the number of animals exposed for sale in the fat stock markets during 1931 :—

Cattle	.	.	.	.	.	.	.	.	45,579
Calves	.	.	.	.	.	.	.	.	5,201
Sheep	.	.	.	.	.	.	.	.	242,668
Swine	.	.	.	.	.	.	.	.	18,452
									<u>311,900</u>

(b) **Abattoirs.**—Supervision has been maintained in accordance with the usual practice at Gorgie and Leith Abattoirs.

The number of animals passing through the slaughterhouses during 1931 is shown in the following Table :—

						Gorgie.	Leith.	Total.
Cattle	{	Oxen	.	.	.	23,107	2,566	25,673
		Bulls	.	.	.	757	121	878
		Cows	.	.	.	3,020	757	3,777
		Heifers	.	.	.	1,234	5	1,239
						<hr/> 28,118	<hr/> 3,449	<hr/> 31,567
Calves	.	.	.	.	3,800	36	3,836	
Sheep	.	.	.	.	135,448	8,612	144,060	
Swine	.	.	.	.	14,298	1,266	15,564	
						<hr/> 181,664	<hr/> 13,363	<hr/> 195,027

(c) **Carcases and offal condemned in Abattoirs.**—Carcases partially or wholly condemned in the City abattoirs weighed 137·39 tons. To this there falls to be added 54·63 tons (weight estimated) of condemned offal, making a total of approximately 192·02 tons, an increase of 5·28 tons as compared with the preceding year. Tuberculosis was responsible for 48·30 per cent. of the number of carcase seizures and for 38·18 per cent. of the number of offal seizures. Details of the seizures are shown in the following Tables :—

Number and weight of carcasses in the different classes of animals condemned at Abattoirs during 1931 :—

	Totally condemned.		Partially condemned.		Total Weight in lbs.
	No.	Weight in lb.	No.	Weight in lb.	
Oxen	72	42,381	284	35,707	78,088
Bulls	17	12,227	47	7,582	19,809
Cows	216	115,257	329	49,690	164,947
Heifers	12	5,087	12	1,315	6,402
Calves	38	2,148	18	794	2,942
Sheep	243	9,550	274	5,351	14,901
Swine	236	27,581	80	3,089	30,670
Total	834	214,231	1,044	103,528	317,759

Number of carcasses condemned in the different classes of animals slaughtered in Abattoirs during 1931, and causes of condemnation.

	CATTLE.										Sheep.		Swine.		TOTALS.
	Oxen.		Bulls.		Cows.		Heifers.		Calves.						
	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	Total.	Partial.	
Tuberculosis	49	208	12	37	176	298	9	7	8	6	...	...	61	36	907
Edema and Emaciation	2	...	2	...	5	...	...	...	7	...	96	95	26	...	233
Traumatism . . . . .	...	5	...	1	...	6	...	2	2	2	5	13	3	10	49
Septic conditions	5	12	1	3	9	9	1	1	3	1	11	19	4	8	87
Pericarditis	2	1	...	...	4	...	...	...	...	...	...	...	...	...	7
Peritonitis and Enteritis . . . . .	...	17	...	...	...	7	...	...	7	...	8	13	8	1	61
Pleurisy and Pneumonia	3	18	...	3	...	4	...	2	5	7	9	121	11	25	208
Dead, Moribund and Illbled	7	...	2	...	13	...	2	...	3	...	110	...	22	...	159
Jaundice . . . . .	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Neoplasms . . . . .	...	1	...	...	...	1	...	...	...	...	2	13	...	...	17
Actinomycosis and Actinobacillosis	3	19	...	2	...	2	...	...	...	...	...	...	...	...	26
Melanosis	1	3	...	1	...	...	...	...	1	2	...	...	...	...	8
Swine Erysipelas . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	11	...	11
Swine Fever . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	90	...	90
Mastitis . . . . .	...	...	...	...	4	2	...	...	...	...	2	...	...	...	8
Metritis . . . . .	...	...	...	...	3	...	...	...	...	...	...	...	...	...	3
Johne's Disease . . . . .	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2
Immaturity . . . . .	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
	72	284	17	47	216	329	12	12	38	18	243	274	236	80	1,878

Comparison between tuberculous and non-tuberculous diseases as causes of condemnation in carcasses of animals slaughtered in Abattoirs during 1931 :—

	CATTLE.						Sheep.	Swine.	TOTAL.
	Oxen.	Bulls.	Cows.	Heifers.	Calves.	TOTAL.			
TuberculosisTotal	49	12	176	9	8	254	...	61	315
...Partial	208	37	298	7	6	556	...	36	592
Total and Partial	257	49	474	16	14	810	...	97	907
Non-tuberculous diseases ...Total	23	5	40	3	30	101	243	175	519
...Partial	76	10	31	5	12	134	274	44	452
Total and Partial	99	15	71	8	42	235	517	219	971
By Weight.	Tuberculosis. (lbs.)			Non tuberculous Disease. (lbs.)			Percentage tuberculous.		
Oxen	61,576			16,512			78·8		
Bulls	16,237			3,572			81·9		
Cows	143,058			21,889			86·7		
Heifers	5,031			1,371			78·5		
Calves	997			1,945			33·8		
Swine	10,816			19,854			35·2		

Number of organs condemned in the different classes of animals at Abattoirs during 1931 (excluding organs of animals totally condemned) :—

	CATTLE.						Swine.	Sheep.	TOTAL.
	Oxen.	Bulls.	Cows.	Heifers.	Calves.	TOTAL.			
LUNGS :—									
Tuberculosis	740	142	1,401	31	37	2,351	214	...	2,565
Other Causes	333	21	76	6	15	451	470	169	1,090
HEARTS :—									
Tuberculosis . . . .	...	...	...	...	...	...	...	...	...
Other Causes	9	...	2	1	...	12	...	1	13
BOWELS :—									
Tuberculosis	343	52	552	14	3	964	91	...	1,055
Other Causes	24	1	13	2	...	40	1	6	47
STOMACHS :—									
Tuberculosis	59	12	83	3	...	157	20	...	177
Other Causes	78	1	23	2	...	104	2	54	160
SPLEENS :—									
Tuberculosis	50	6	75	1	...	132	25	...	157
Other Causes	11	...	4	...	1	16	...	1	17
LIVERS :—									
Tuberculosis	286	33	228	13	15	575	183	...	758
Other Causes	6,903	213	1,197	45	11	8,369	98	892	9,359
KIDNEYS :—									
Tuberculosis	63	12	83	3	...	161	...	...	161
Other Causes	41	3	41	...	2	87	1	1	89
UDDERS :—									
Tuberculosis . . . .	...	...	15	...	...	15	1	...	16
Other Causes . . . .	...	...	181	...	...	181	...	...	181
HEADS AND FEET :—									
Tuberculosis	623	100	471	24	1	1,219	735	...	1,954
Other Causes	103	6	8	2	1	120	3	1	124
Total	9,666	602	4,453	147	86	14,954	1,844	1,125	17,923

Percentage incidence of Tuberculosis in animals slaughtered at Abattoirs during 1931 :—

Cattle	Oxen	5.18	Per cent.
	Bulls	25.40	
	Cows	49.18	
	Heifers	5.25	
Calves		1.25	
Swine		5.61	

(d) (1) **Wholesale Dead Meat Markets.**—During the year meat (fresh and frozen) estimated to be equivalent to 52,898 carcasses was imported into the City for sale in the wholesale dead meat markets. In addition, considerable quantities of frozen boneless meat, kidneys, livers, tripe, etc., were received. It is not possible to ascertain with any approach to accuracy the amount of this class of material which arrives in the City. Daily visits of inspection were made to the dead meat markets and to the premises of wholesale meat traders.

As in previous years, imported frozen mutton has been brought under observation for the detection of caseous lymphadenitis. No case of this disease has been discovered in consignments arriving in the City and it is observed that it is becoming increasingly the practice for the examination necessary for its detection to be made in the country of origin and especially so in those countries in which there is a high incidence of this disease. No case of this disease has been discovered in locally slaughtered sheep, although lesions simulating those of caseous lymphadenitis are seen from time to time.

(2) **Retail Shops, Street Hawkers, etc.**—Periodical visits were made during the year to shops, etc., in which foodstuffs are prepared or exposed for sale.

Number of visits paid to Shops, etc., during 1931 :—

Butchers' Shops	870
Provision Shops	1,401
Fishmongers' Shops	308
Fruiterers' Shops	636
Meat Sales and Wholesale Meat Shops	2,185
Live Stock Sales and Markets	260
Street Hawkers	24
Hide and Skin Merchants	618
Fish Markets	312
Restaurants	228
Railway Stations	1
Total	<u>6,843</u>

Inspectors are instructed to observe and to report on the sanitary condition of food premises and on the conditions under which foodstuffs are stored. In some instances there appears to be a complete absence of understanding of the risks of contamination of food stored under inappropriate conditions, and of the dangers associated therewith. Where necessary, steps have been taken to remedy faulty conditions, to effect cleansing of back shops and cellars, and to ensure the removal of accumulations of waste and other offensive matters.

The Sale of Food Order requires butchers and others offering imported meat for sale to attach a label or notice to the meat, bearing the word "Imported" in such a way as to be readily observed by a purchaser. There is distinct tendency to laxity in the observance of this requirement in certain of the poorer parts of the town, and it continues to be necessary, from time to time, to issue warnings against negligence or failure to comply with the terms of the Order.

Numbers and weights of foodstuffs seized in markets, shops, and other premises in the City, during 1931 :—

	No.	Weight in lbs.
Beef	47	7,331
Mutton	63	3,085
Pork	23	1,156½
Veal	18	647
Poultry and Game	13	2,541
Edible Offal	5	65
Fruit and Vegetables	28	192¾
Provisions	14	129
Fish	17	34,417½
Total	<u>228</u>	<u>49,564¾</u>

(3) **Carcases, etc., submitted for Inspection** in terms of Article 8 (4) of the Public Health (Meat) Regulations (Scotland), 1930. This regulation places an obligation on the consignee of a carcase which he has reason to believe has not been inspected in the manner specified by the Public Health (Meat) Regulations, to report its receipt to the Local Authority of the district. In practice, the wholesale meat traders of the City notify the Veterinary Department in all cases in which they receive home-killed carcases from beyond the City boundaries. During the year notification was received in respect of 1,902 carcases and 160 parts of carcases. After inspection of these, 67 carcases, 27 parts of carcases and 6 heads were seized and destroyed.

(4) **Approval of Meat Storage.**—Article 13 of the Public Health (Meat) Regulations (Scotland), 1930, requires persons selling meat from vans, carts, etc., who do not also keep an open shop for the sale of meat, to obtain from the Local Authority a certificate of approval of the accommodation provided for the storage of meat overnight. In the City, only three traders fall into this category. The storage accommodation provided is in each case very satisfactory and the necessary certificates of approval have been renewed by the Local Authority.

PORT FOOD INSPECTION.

The usual supervision has been maintained as to the condition and soundness of foodstuffs landed at the Port of Leith during 1931. No feature of outstanding interest has arisen.

The appended summary will serve to show the origin and the kinds of foodstuffs falling under the supervision of the Department at the Port of Leith.

Imported Foodstuffs inspected, under the Public Health (Imported Food) Regulations (Scotland), 1930, during 1931 :—

Country of Origin.	Foodstuffs.	No. of Consignments.	
Holland	Bacon	187	
	Canned Meats	29	
	Fruit	382	
	Oysters	7	
	Pigs' Feet	25	
	Pork in Brine	1	
	Provisions	1,005	
	Vegetables	807	
	Yeast	100	
		<hr/>	2,543
Denmark	Bacon	104	
	Canned Meats	72	
	Fish	10	
	Fruit	2	
	Gut	14	
	Hams	47	
	Lard	53	
	Pigs' Feet	64	
	Pigs' Heads	95	
	Pork	6	
	Provisions	431	
	Vegetables	24	
	Yeast	52	
		<hr/>	974
U.S.A.	Canned Meats	9	
	Cereals	53	
	Fruit	2	
	Hams	4	
	Lard	7	
	Pork and Beans	2	
	Provisions	20	
		<hr/>	97
Canada	Canned Meats	18	
	Cereals	42	
	Hams	16	
	Lard	19	
	Provisions	32	
	Pork and Beans	3	
	Vegetables	2	
		<hr/>	132
Iceland	Fish (fresh)	10	
	Fish (salted)	64	
		<hr/>	74
Belgium	Fruit	95	
	Provisions	82	
	Vegetables	10	
	Yeast	18	
		<hr/>	205
Germany	Fruit	82	
	Provisions	134	
	Vegetables	22	
		<hr/>	238
South America	Cereals		11
Sweden	Bacon		2
Rumania	Cereals		6
East Africa	Cereals		1
Australia	Cereals		5
		<hr/>	<u>4,288</u>

Imported Foodstuffs condemned or rejected and re-exported at the Port of Leith, during 1931 :—

	Weight in lbs.	Weight in lbs.
Fruit :—		
Apples	3,584	
Cherries	280	
Black Currants	1,535	
Gooseberries	56	
Red Currants	1,100	
Plums	2,664	
Strawberries	2,920	
	<hr/>	12,139
Vegetables :—		
Carrots	92,605	
Cauliflowers	2,520	
Lettuce	29,240	
Potatoes	14,300	
Radish	160	
Turnips	680	
	<hr/>	139,505
Margarine		56
		<hr/>
		151,700
		<hr/>
Equal to	Tons 67	Cwts. 14 Lbs. 52

Summary, showing total diseased and unsound Foodstuffs dealt with by the Department in the City, during 1931 :—

	Wt. in lbs.
At Abattoirs—Carcases	317,759
Offal (weight estimated)	122,355
In Shops, Warehouses, etc.	49,564 $\frac{3}{4}$
At the Port of Leith	151,700
	<hr/>
	641,378 $\frac{3}{4}$
	<hr/>
Equal to	Tons 286 Cwts. 6 Lbs. 66 $\frac{3}{4}$

I am,

Your obedient Servant,

A. GOFTON, F.R.C.V.S.,

Chief Veterinary Inspector.

To

Chairman and Members of the Public Health Committee.

DISEASE OF ANIMALS ACTS.

LADIES AND GENTLEMEN,

The Acts confer power on the Ministry of Agriculture to make Orders for the control and prevention of animal diseases, to govern the import and export of animals and carcasses, to control the conditions of transport of animals by land and sea, and for other similar purposes. The following diseases are subject to administrative control by means of Orders made by the Minister :—

Anthrax.
 Foot and Mouth Disease.
 Parasitic Mange of Horses.
 Sheep Scab.
 Swine Fever.
 Bovine Tuberculosis and Contagious Abortion (for certain purposes only).
 Cattle Plague or Rinderpest. (1877.)
 Contagious Bovine Pleuro-Pneumonia. (1898.)
 Glanders and Farcy. (1928.)
 Epizootic Lymphangitis. (1906.)
 Rabies. (1922.)
 Sheep Pox. (1850.)

There have been no cases of the last six diseases in Great Britain since the dates shown against each.

Anthrax.—Two cases of anthrax occurred in the City during the year, one being a bullock from the County of Midlothian which was temporarily accommodated in the lairages adjoining Gorgie Market, whilst awaiting exposure for sale. In terms of the Edinburgh and Midlothian Order of 1910, 22 deaths of bovine animals on farms were reported and were investigated with negative results, so far as anthrax, or other notifiable disease was concerned. Similar investigations were made in respect of 94 cattle, sheep and pigs found dead on arrival of trains and boats, or which died, without previously observed illness, in the lairages attached to the Markets and Slaughter-houses.

Foot and Mouth Disease.—Ninety-seven outbreaks of foot and mouth disease occurred in Great Britain in 1931, as compared with 8 the previous year. These outbreaks entailed the slaughter of 3,697 cattle, 5,563 sheep, 1,384 pigs and 4 goats. The City was again fortunate to escape infection.

In the month of June, foot and mouth disease was introduced from Northern Ireland by cattle landed at the ports of Ayr and Heysham, and, within ten days, 46 outbreaks, directly attributable to these animals occurred in Scotland and the north of England. In consequence of the widespread distribution of the animals and of the infection, by them, of numerous markets, the Ministry of Agriculture imposed a “standstill” Order affecting cattle, sheep and pigs, over an area comprising the whole of Scotland and practically the whole of the northern half of England. The Orders restricting movement remained in operation during the period June 19th to July 3rd, with some modifications of the areas involved. There can be no doubt that the action of the Ministry, though drastic, was effective in checking an outbreak which threatened to develop into very large and serious dimensions. In the City this outbreak occurred at an extremely unfortunate time, since it coincided with the Centenary Show of the Highland and Agricultural Society and had the effect of excluding cattle, sheep and pigs from the Show-yard.

The outbreak entailed the tracing of approximately 500 Irish cattle which had passed through the City markets to the districts of other local authorities, and the detention, in various premises in the City, of 279 Irish cattle which were subjected to daily veterinary inspection for fourteen days, *i.e.*, until the risk of disease developing had passed.

During the period of restricted movements, the Local Authority granted licences for sales, in the City, of fat stock for slaughter within 96 hours and for a special sale of pedigree Guernsey cattle. Approximately 2,750 licences were issued or were checked and countersigned by the Department, authorising movements to and from the sales or for the purpose of permitting other necessary movements. Three persons were summoned for contraventions of the Order and fines of £10, £5 and £3 were imposed.

In the month of July, I reported to the Local Authority that their officials had been placed in a position of considerable difficulty when the Ministry found it necessary to issue a far-reaching “standstill” Order taking immediate effect. The difficulties were due to the following causes:—(1) A copy of the Order was not available in the City till the following day at midday, before which time their officers had been inundated with requests for licences; (2) the conditions applicable to movement licences, in relation to foot and mouth disease, are not standardised but are varied in detail from time to time; (3) the titles of the Orders are not standardised, they are usually very long and are changed with each amendment Order, making transcription by hand impracticable at a time of congestion; and (4) printed forms of licence cannot be obtained earlier than twenty-four hours after the issue of the Order, or seventy-two hours when a Sunday intervenes. Further, unnecessary expense is incurred by the printing of licence forms which have to be scrapped on the passing of the emergency and cannot be placed in stock for future use under similar circumstances. In order to obviate these difficulties and to simplify procedure in any similar future emergency, the following suggestions were submitted to the Local Authority, approved by them and forwarded to the Ministry of Agriculture.

That the titles of Orders relating to emergency conditions, in connection with foot and mouth disease, and to infected areas, should be stabilised, so that stock forms of licence may be kept in hand by local authorities, and may be made valid and in compliance with the Order, by the addition of a date which can be readily inserted by hand or by means of a rubber stamp.

That the conditions applicable to movement licences should also be stabilised in order to permit of the issue of valid licences setting forth the conditions attaching to the licence, when the issue of licences must of necessity be made before the actual Order is received or before printed forms can be obtained.

When the Ministry notifies by telegram the issue of an Order taking immediate effect, the title of the Order should be clearly specified in the telegram, so that licences issued locally before the actual Order is received may be made properly valid and not open to challenge.

Movement of Animals (Records) Order.—This Order requires the owners of cattle, sheep, goats and pigs to keep records of movements of these animals on to or out of their premises, together with the place of origin or destination as the case may be. The object of these records is to facilitate tracing the origin of infection and the distribution of contacts, especially in foot and mouth disease and swine fever. It was found, during the course of the year, that considerable laxity existed on the part of many stock owners in the keeping of correct records. In one case, in which proceedings were taken, the person charged was convicted and fined £10. In a second case, in which there was a second charge of an offence under the Swine Fever Order, the party concerned was admonished for failure to keep a complete and correct record of movements.

Parasitic Mange of Horses.—This disease, which was very prevalent in the City eight or ten years ago, has almost entirely disappeared. Three suspected cases were reported during the year and of these one proved positive on investigation.

Sheep Scab.—The City has again a clean record in respect of this disease. The Regulations made by the Local Authority, under the Sheep Scab Order, which require the dipping of all sheep in the City during the period July 15th to August 31st, and again during the period September 1st to November 30th have remained in force. In terms of the Regulations, 32,494 sheep were dipped under supervision during the year.

The Sheep Double Dipping Regulations were revoked by the Local Authority as from August 1st, and similar action was taken simultaneously by all the local authorities in the south of Scotland group. A movement was initiated during the year by the County of Berwickshire with the object of pressing the Ministry of Agriculture to secure revocation of the regulations made by local authorities in England requiring the double dipping of all sheep imported from Scotland. It was proposed that the Scottish local authorities should combine for this purpose, but the movement has not developed although it received the sympathy and support of all the local authorities in the south of Scotland. It may be pointed out that the English regulations impose a material handicap on the Scottish sheep trade which is felt especially in the Border counties, and that the restrictions cannot be justified having regard to the very low incidence of sheep scab in Scotland.

Swine Fever.—In the month of July, arrangements were made with the Ministry of Agriculture, under which the Veterinary Officers of the Local Authority were to act as local Veterinary Inspectors of the Ministry in relation to outbreaks of swine fever. This arrangement has simplified procedure and has operated in the interests of stockowners whose stocks have been attacked by the disease. Not for many years has swine fever been so prevalent in the City. The disease unfortunately appeared in

a large herd of pedigree pigs representing one of the best and most valuable pedigree pig stocks in the country. By the use of swine fever anti-serum, some 30 or 40 breeding animals were carried through the outbreak, but this represents a very small proportion out of a total stock of about 550 pigs.

I am satisfied that the disease had its origin and was spread by dealers exposing pigs for sale in the pig store markets of the City. It is well known that the purchase of pigs by dealers, from widely scattered sources, the drafting of the pigs for sale, and their exposure and re-exposure in various markets is one of the most prolific causes of the spread and distribution of swine fever. Since the incubative period of swine fever may be as long as three weeks, it will be realised that the risk of a purchaser buying apparently healthy pigs in the incubative stage of the disease is a very real one.

Forty-four reports of suspected swine fever were received during the year of which forty were confirmed by the Ministry of Agriculture. Arising out of these outbreaks, the Local Authority became responsible for the removal and destruction of 1,210 carcasses and a large amount of offal from the infected premises. Proceedings were taken against two owners for failure to report the suspected existence of disease and fines of £10 and £15 were imposed. In a third case an owner was summoned for removing manure from infected premises without a licence, and, on conviction, was fined £2.

Under the Regulation of Movement of Swine Order, six pigs were moved under licence from scheduled areas in England to various premises in the City, subject to detention and isolation for 27 days after arrival. Periodical visits were made to these premises with the double object of seeing that the conditions of the licence were fulfilled and to maintain observation on the health of the pigs.

Bovine Tuberculosis.—Thirty-five animals were dealt with under the Tuberculosis Order of 1925. Six of these animals were found in the Markets, having been brought to the City from the districts of other local authorities. In terms of Article 12, they were removed to the Abattoir and slaughtered by the owners at their own risk. The 35 animals were grouped as follows :—(1) Tuberculosis of the udder, 22 ; (2) Tuberculous emaciation, 2 ; (3) Chronic cough and showing definite clinical evidence of tuberculosis, 11. Tuberculosis of the udder thus constituted 62·85 per cent. of the cases dealt with in the City. This figure compares with 19·3 per cent. of milk and udder cases out of the total number of cows and heifers slaughtered in Great Britain under the Order in 1930. The 29 animals slaughtered by the Local Authority were classified for compensation into—Advanced 17 (58·6 per cent.), and—Not advanced 12 (41·4 per cent.).

With the exception of one case, in which a valuer was called in, agreement was reached between the owners and the officers of the Local Authority as to the value of the animals for purposes of compensation. The aggregate value of the 29 animals was £316, and the compensation paid amounted to £158, an average of £5, 8s. 11d. per animal. Seventy-five per cent. of the gross compensation is refunded by the Treasury and the proportion payable by the Local Authority was thus £39, 12s. 6d. The gross salvage realised was £75, 9s. 8d. After deducting outlays a net sum of £48, 3s. 6d. remained with the Local Authority.

The minimum compensation payable for animals slaughtered under the Tuberculosis Order was reduced from 45s. to 30s., as from 15th October, by the Tuberculosis (Amendment) Order of 1931.

Control of Dogs Order.—This Order and the Regulations made in terms thereof require (1) the wearing by dogs of a collar bearing the name and address of the owner, and (2) the maintenance of dogs under effective control between sunset and sunrise. The object of the Order is the prevention of sheep-worrying which has, unfortunately, been of too frequent occurrence in the City in recent years. Proceedings were taken against 55 persons for breach of the Order or the Regulations. Of these, 7 cases were dropped or withdrawn, 5 persons were admonished, and 43 were fined sums varying from 2s. 6d. upwards.

Importation of Animals—Irish and Canadian Cattle.—The Orders controlling the importation of Irish and Canadian cattle permit these animals to be landed at ports approved for the purposes, where, on arrival, they are inspected and thereafter they may be moved on licence, in the case of fat cattle, to a slaughterhouse, and, in the case of store cattle, to (a) a specially authorised market, or (b) farms or other premises where they must be detained for six days after arrival. 18,095 Irish cattle were received at Gorgie Market under licence from ports, and 1,047 licences were issued authorising movement of these cattle from the Market. 4,804 Irish cattle and 39 pigs were moved to farms in the district of the Local Authority from the Market or direct from the ports, and were maintained under observation during the period of detention. 804 cattle were licensed to Gorgie Abattoir. The importation of animals from Ireland was subject to restrictions during the period June 19th to August 23rd, owing to the prevalence of foot and mouth disease in Northern Ireland. 356 Canadian Cattle were received under licence and all were consigned to the slaughterhouse.

Horses.—Two consignments of horses were landed at Leith Docks from Iceland, and one from Bombay. The horses were released after inspection and on submission of the necessary certificates.

The Animals (Importation) Order of 1930 makes it unlawful to bring into any port in Great Britain ruminating animals or swine which have been on board a vessel whilst in a port in a prohibited country, whether taken on board the vessel in a prohibited country or not. Three vessels arrived at Leith Docks having pigs on board as ship's stores. A report in respect of each case was submitted to the Fiscal, but two of the vessels left port before action could be taken. In the third case, the Master of the vessel appeared in Court, submitted a plea of guilty and was admonished.

Certification for Export.—The Dominions of Canada, Australia and New Zealand require disinfection and certification of straw and hay used for packing goods exported from this Country to the Dominions. Facilities are provided for the disinfection of straw and hay used for packing, at an old Municipal Disinfecting Station, at a small charge to cover costs. During the year, 181 certificates were issued to cover goods exported in disinfected straw. Surprise visits were paid, from time to time, to the packing establishments of exporters to ensure that the conditions necessary for certification were being complied with.

In addition to the above, certificates were granted, after the necessary inspection, to cover exports of wool to Italy, Greece and Bulgaria, beef fat to Sweden, and various prepared meat products to Switzerland and the United States.

Transport of Animals.—The Animals (Sea Transport) Order prescribes the accommodation and fittings which must be provided on board ship for transport of animals by sea. It deals entirely with the protection of animals against unnecessary suffering during sea transport to or from Great Britain. Inspectors of the Ministry maintain supervision of the overseas transport and especially of the export of horses to the Continent, but supervision of the coastwise traffic devolves, in a large measure, on the officers of the Local Authority. Animals were landed at Leith Docks from coastwise vessels, during the year as follows :—Horses, 273, Cattle 131, Sheep 27,676, Pigs 33. The cleansing and disinfection of the vessels after landing of the animals was carried out under the supervision of the Officers of the Local Authority.

The Transit of Animals Orders are similarly designed to protect animals during transport by road or rail and, in addition, prescribe cleansing and disinfection of cattle trucks, motor and horse-drawn vehicles used in the transport of animals. The Markets Committee have continued to provide facilities and labour at Gorgie Markets for the cleansing and disinfection of road vehicles. Approximately 100 vehicles are disinfected on Market days each week and the number tends to increase. The Railway Companies

have satisfactorily discharged their obligations in the cleansing and disinfection of cattle trucks, railway sidings, and approaches. Three contractors were prosecuted, convicted and fined £5, £2 and £1, for failure to cleanse and disinfect road vehicles, and two were similarly fined 5s. each for failing to provide battens, straw, or other means of furnishing a foothold for animals during transport by road.

The Markets, Sales and Lairs Order.—This Order regulates many features in the construction of live stock markets, and provides for cleansing and disinfection on each occasion after use. All the Marts at Gorgie are well constructed for efficient and relatively easy disinfection, and this is fortunate, for, with sales on two consecutive days each week, cleansing and disinfection must be carried out overnight. Regular supervision has been maintained and the work is generally well done.

Summary of Contraventions of the Diseases of Animals Acts and Orders dealt with during the year :—

Orders.	Number of Cases.	Results.
Transit of Animals Order	5	Fined £5 ; £2 ; £1 ; 5s. ; 5s.
Swine Fever Order	3	Fined £15 ; £10 ; £2.
Foot and Mouth Disease Orders	3	Fined £10 ; £5 ; £3.
Movement of Animals (Records) Order	1 1	Admonished. Fined £10.
Animals (Importation) Order	1	Admonished.
Diseases of Animals (Edinburgh and Midlothian) Order	1	Charge withdrawn.
Control of Dogs Order	43 5 7	Fined 2s. 6d. upwards. Admonished. Dropped or withdrawn.

Protection of Animals (Scotland) Act, 1912.—During the year, 16 animals were found in the Markets suffering from disease or injury which exposed them to unnecessary suffering if put through the ordinary procedure of exposure for sale and disposal. As the result of the action taken, all of these animals were passed to the local Abattoir and there slaughtered.

Lighting and Cleansing Department Stud.—Five hundred and seventy-one visits of attendance were made to the stud under the control of the Lighting and Cleansing Department, and eighteen horses were subjected to inspection and examination prior to consideration of purchase by the Lighting and Cleansing Committee.

Colinton Mains and Oxfangs Farms.—General supervision has been maintained over the herd and farm stock, and the Staff of the Department have co-operated with the Farm Manager on matters relating to the purchase, management and feeding of the stock. Two hundred and twenty-eight visits were paid to the farms for the treatment of sick and parturient animals.

Bangour Farm.—The Department was instructed to provide the veterinary services required in connection with the dairy herd and farm stock as from May 15th, and this has been done. In the month of June, a special report on the dairy herd was submitted to the Corporation. At the close of the year, the action to be taken by the Corporation arising out of that report was still under consideration. The Department was also instructed to inspect the carcasses of all animals slaughtered for food in the Abattoir on the farm before issue to the Storekeeper of the Institution, and this instruction has been carried out.

Police Horses.—During the year twelve horses were purchased for police purposes, and the necessary veterinary attendance on these animals has been provided by the Department.

Staff and Police.—I desire to express my thanks to the Staff of the Department for their assistance and for the efficient manner in which they have carried out their duties during the year. I also wish to express my gratitude to the Chief Constable for his willing co-operation, and to the Officers of the Police Force, whose assistance has contributed materially to the efficient performance of the duties under the Diseases of Animals Acts.

I am,

Ladies and Gentlemen,

Your obedient Servant,

A. GOFTON, F.R.C.V.S.,
Chief Veterinary Inspector.

